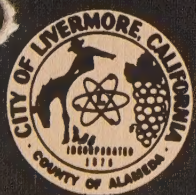
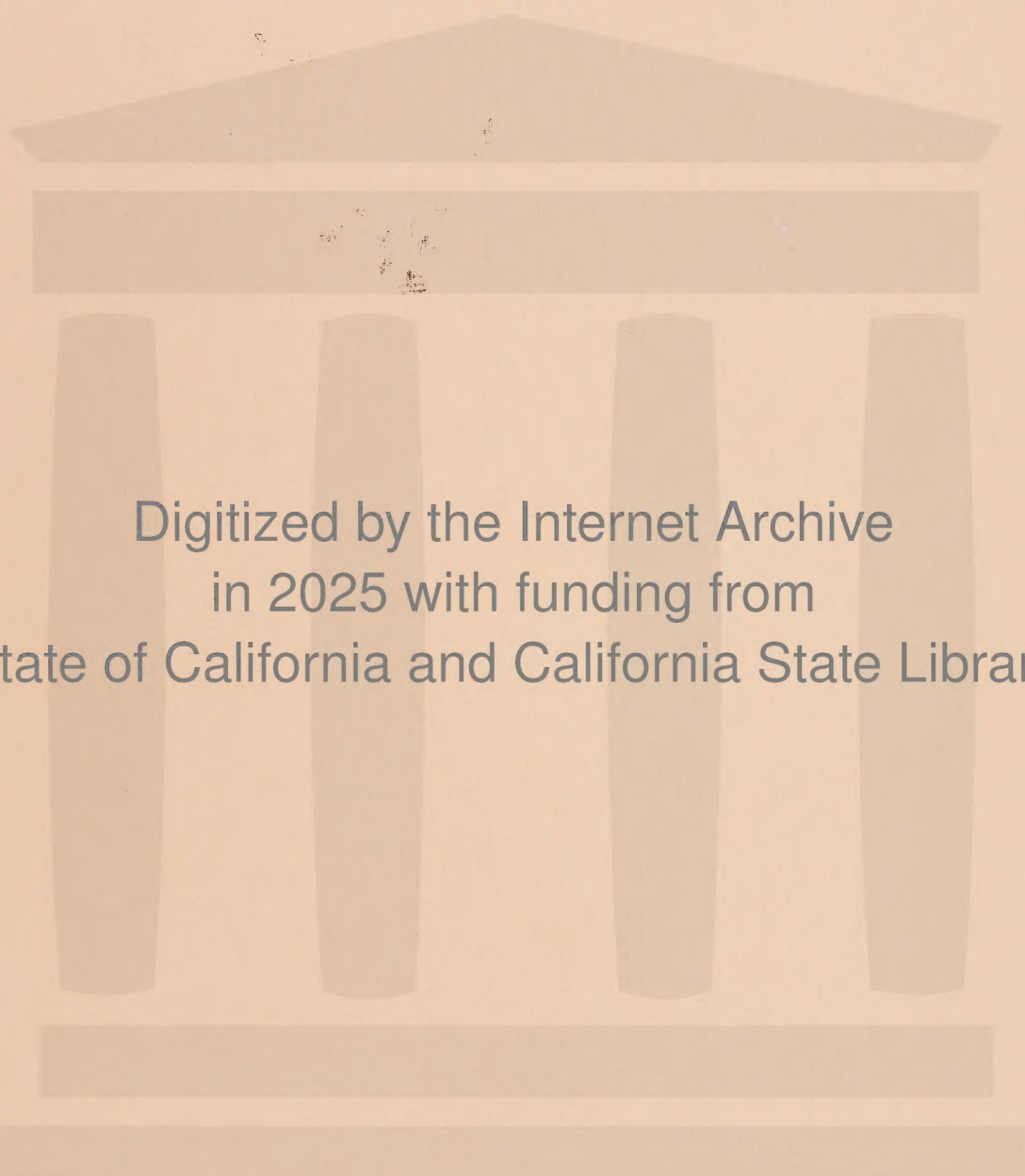


LIVERMORE

COMMUNITY GENERAL PLAN 1976 - 2000





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**LIVERMORE
COMMUNITY
GENERAL
PLAN
1976 - 2000**



1. 15

"The values it (the community) represents are spiritual as well as physical, aesthetic as well as monetary. It is within the power of the legislature to determine that the community should be beautiful as well as healthy, spacious as well as clean, well-balanced as well as carefully patrolled."

Justice William O. Douglas
in Berman vs. Parker
U. S. Supreme Court 1954

CERTIFICATION

This is to certify that the document

COMMUNITY GENERAL PLAN

1976 - 2000

CITY OF LIVERMORE, CALIFORNIA

was adopted as the comprehensive, long-term general plan for the City of Livermore pursuant to Chapter 3, Title 7 of the Government Code, the Planning and Zoning Law of the State of California.

Adopted by Planning Commission (Resolution No. 26-76)
on February 18, 1976.

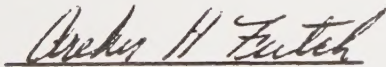


Glen H. Dahlbacka
CHAIRMAN



George R. Musso
SECRETARY

Adopted by City Council (Resolution No. 54-76) on
March 8, 1976.



Archer H. Futch
MAYOR



Dorothy J. Hock
CITY CLERK

Based on a document prepared by
Grunwald Crawford Associates - December 1975

and

Amended By
City Council - City of Livermore - March 1976

Participants in the Preparation
of the
City of Livermore Community General Plan 1976 - 2000

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PART I

INTRODUCTION TO THE GENERAL PLAN



PART I

INTRODUCTION TO THE COMMUNITY GENERAL PLAN

A. INTRODUCTION

Publication of this report concludes more than three years of intensive effort by the City of Livermore and a citizen's committee to update and refine policies and proposals of the Livermore General Plan first adopted in 1959. The current General Plan Program was initiated in June, 1973 when it became apparent that the 1959 Plan no longer provided either the breadth or depth of analysis and policy direction required by the City as a guide for future development of the community.

The first two years of the program resulted in the preparation of the Citizen's Committee Report on General Plan Goals. The third year's effort resulted in the preparation of this Community General Plan. As a comprehensive guide to future development, it affords the City an improved capability to better manage the process of urban development envisioned by the people of the community.

The City of Livermore can take considerable pride in this revision of the General Plan for two reasons:

First, the document reflects community involvement and is not simply the work of professional planners. This was due primarily to the dedicated commitment of the Citizen's Committee, the Planning Commission and the City Council. Participation by agencies of local government provided valuable input as well, particularly that of the City staff, the Livermore Valley Unified School District, and the Livermore Area Recreation and Parks District.

The contribution of these participants will mean the difference between a plan which merely meets the requirements of State law and one which has the understanding and support of those public officials who have responsibility for using the Plan.

Second, pride of accomplishment should also stem from the rare comprehensiveness of the planning process and the products resulting from that process. In effect, the City designed its own program based on its own conception of need rather than merely responding to requirements of State law. This was particularly evident in the overriding concern for the impact of growth on the environmental resources of the

Valley and the protection of the natural setting. In this regard, the computerized system for inventory and evaluation of all environmental resource characteristics of the 139 square mile planning area and the air quality impact analysis using an air pollution transport model are but two examples of the City's desire to employ the most advanced technology to aid them in the planning process. The comprehensiveness of the process was also demonstrated by the participation of Regional, State and Federal levels of government. Their involvement was particularly valuable in the environmental assessment phase in helping to identify significant resource areas.

B. CONTENT OF THE REPORT

This report is presented in four parts. Its organization and format is designed to be a plan which integrates all of the components and elements of the plan process. Part II provides a summary of the basic findings and conclusions--the basic determinants--resulting from a series of task reports prepared during the early phase of the program. Part III contains the City's goals and policies which were debated and agreed upon as the basis for design proposals of the General Plan. Part IV presents the proposals of the Plan for medium- and long-range time periods.

Throughout the document there are references to various organizations and agencies according to initial identification. These are as follows:

ABAG	Association of Bay Area Governments
AQMA	Air Quality Maintenance Area
BART	Bay Area Rapid Transit District
CALTRANS	California Department of Transportation
CNACC	California Natural Area Coordinating Council
DWR	Department of Water Resources
EBRPD	East Bay Regional Park District
EPA	Environmental Protection Agency
LAV	Livermore-Amador Valley
LAVWMA	Livermore-Amador Valley Water Management Agency
LARPD	Livermore Area Recreation and Park District
LVUSD	Livermore Valley Unified School District
MTC	Metropolitan Transportation Commission
SFBRWQCB	San Francisco Bay Area Regional Water Quality Control Board
USDA	United States Department of Agriculture
USGS	United States Geological Survey
VCSD	Valley Community Services District

C. INTERPRETATION

In administering and interpreting the General Plan, it must be understood that the Plan diagram together with the text constitute the General Plan. The Plan diagram contains general land use and circulation proposals, and is not intended to show precise land uses or densities on small sites. While the Plan diagram will be referred to frequently, proposals on the diagram cannot be understood or interpreted without referring to the text. The full value of the General Plan will not be realized, nor will the public interest be served, if various parties rely solely on proposals of the Plan diagram.

State law requires that a city's zoning ordinance be consistent with its General Plan. As already stated, the Plan diagram is not intended to show precise land uses or densities on small sites (less than approximately one acre). Therefore, a small site, zoned to permit a different land use than proposed in the Plan diagram, may still be consistent with the General Plan. There are two situations where this would apply. First, where a small site is geographically close to another area with a Plan Diagram Land Use Proposal that would permit the land use and the use existing when the General Plan was adopted in March 1976, and second, where a small residential site is zoned to permit a higher density than proposed in the Plan diagram and the zoning: (a) existed when the General Plan was adopted; (b) does not adversely alter the proposed character of the area; or (c) does not set a precedent for increasing the density of the area above that proposed on the Plan diagram.

The word "general" is a key to understanding the nature of policies and goals of the General Plan. It implies overall agreement on major questions without a straight jacket of inflexibility; it implies variation while working toward the achievement of common goals, and it implies adjustment of policies and proposals as changing conditions may dictate. While a properly administered general plan demands flexibility, variation and adjustment, any changes in policy or of proposals should result only from careful study independent of pending applications for controversial zoning permits, problems created by inadequate public facilities, temporary fiscal problems, and other "matters of the moment". The Policies and goals of the Plan should not be changed merely to accommodate special public and private interest. The integrity of the Plan must be maintained if it is to be an effective instrument of public policy among the City, County, private enterprise and the public-at-large.

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PART II

SUMMARY OF BASIC DETERMINANTS



PART II

SUMMARY OF BASIC DETERMINANTS

A. INTRODUCTION

The Livermore Community General Plan program began with a series of studies of the physical and socio-economic conditions of the 139-square mile Livermore Planning Area. These studies included in-depth analyses, projections and identification of policy issues relating to each of the elements contained in the General Plan. They also included an evaluation of planning policies and community opinion identified in a previously published Citizens' Committee report.

The results of these studies were published in seven task reports which served as "working papers" used in discussion sessions with citizens, the City Planning Commission and the City Council. From these study sessions evolved a consensus on planning policy which provided the framework and direction for preparation of this General Plan document.

The following is a brief summary of the findings and conclusions of the basic studies and reflects the review by the advisory and legislative bodies during the study sessions. The goals and policies are presented in Part III.

B. THE PLANNING AREA

The Livermore-Amador Valley is located in the eastern portion of Alameda County (Figure II-1). It is approximately thirty miles east of Oakland and forty miles southeast of San Francisco. The Valley lies within the California Coast Ranges and is surrounded by hills on all four sides. The Mount Diablo Range forms the north and east sides of the Valley, and the Mount Hamilton Range forms the the southern perimeter. The East Bay Hills, which are a part of the western and central portions of the Diablo Range, provide a scenic background along the west slope. The surrounding hills range in elevation from 1,000 to 2,000 feet and are predominantly open space devoted to agriculture or some form of recreation. Topography is quite varied and ranges from gently sloping lowlands to very steep canyons. The Valley is approximately four miles wide; as such it is the largest of the inter-mountain valleys in the coastal range.

The Planning Area (Figure II-2) occupies the eastern portion of the Livermore-Amador Valley -- commonly called the Livermore Valley. The Planning Area, consisting of 139 square miles, is bounded generally on the north by the Alameda

FIGURE 11-1

REGIONAL SETTING

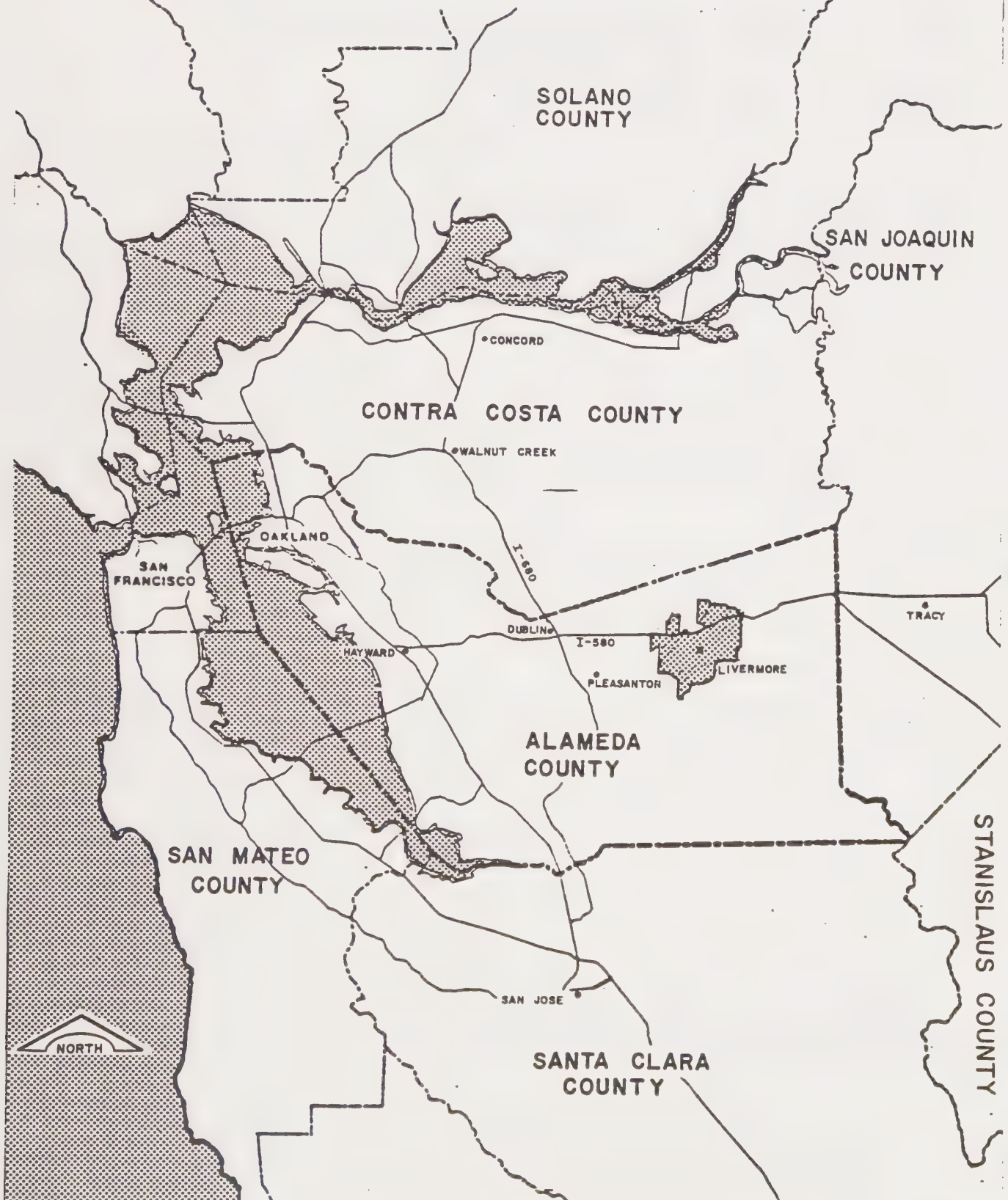
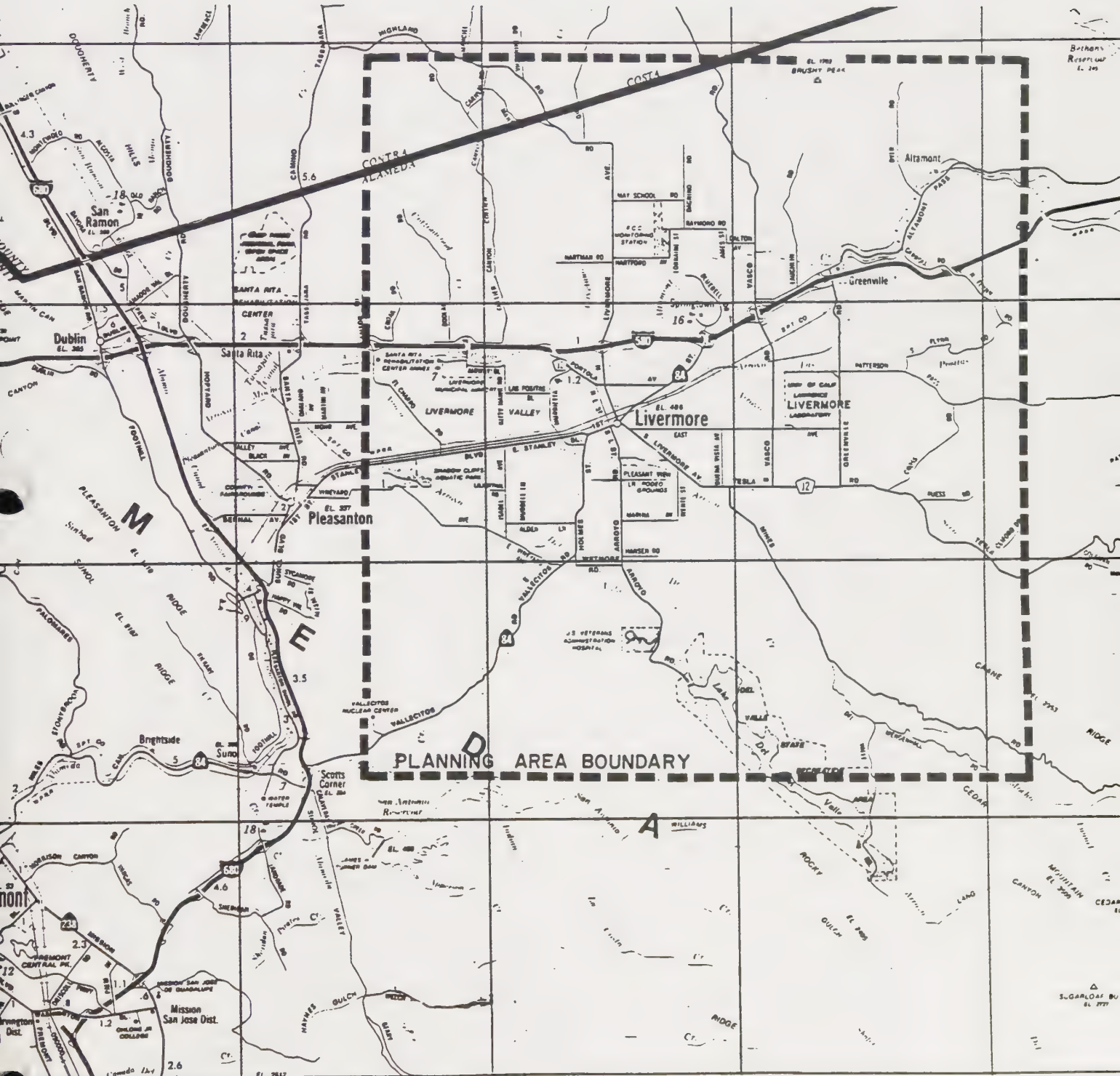


FIGURE II-2

PLANNING AREA



County Line; on the east by the ridgeland of the Altamont Range; on the south by a line located 8 miles south of the Livermore City Hall; and on the west by the Murray-Pleasanton Township Line. The boundary has been squared for mapping purposes.

C. COMMUNITY GOALS AND OPINIONS

To be a viable plan basic determinates would include a determination of community goals and opinions. Prior to the retention of a consultant for plan preparation, a citizens' committee was created to evaluate the 1959-1990 General Plan and to determine the goals and opinions prevalent in the community today. Participation on the committee was open to all and recruitment widely publicized. Working independently of any professional planning direction, the committee developed goals for the community based on their own experience and on a community attitude survey conducted by Corey, Canapary & Galanis, a public opinion consultant. A summary of the survey follows.

Most adult residents moved to Livermore for jobs, reasonably priced homes and the City's small town rural atmosphere. They are satisfied with Livermore as a place to live. In addition to the rural atmosphere, they like the people, the climate and the geographic location of the City. They are concerned about the lack of public transportation, the smog/pollution and the lack of shopping facilities.

Residents are not opposed to growth as long as it is controlled and public service facilities do not suffer. They feel that growth should pay at least part of its own way (in terms of connection fees). Livermore residents are opposed to unrestricted growth and they are opposed to no growth.

In looking to the future, the adults interviewed envision a city where residents work and shop. They do not want a "bedroom" community where residents work elsewhere. They favor industry as long as all State and local environmental standards are met. They want the City government to actively pursue a limited amount of business and industry in the hopes that this will ease the tax burden on the homeowner and improve local employment opportunities. They want public transportation within the City of Livermore and they state they themselves will use it. They also want adequate public transportation to nearby communities and to the Oakland/San Francisco area. They are very concerned about air pollution and they want adequate shopping facilities in Livermore. They want a major department store located in a center where they can do one-stop shopping. Residents feel the downtown area of Livermore should be renovated or that an alternate should be developed...perhaps a regional shopping center that has easy access to the Freeway. They want the Junior College and they give high priority to improving the elementary

school facilities. They see the need for a cultural center but rank it low in the order of priorities.

Residents feel that Livermore has its own identity. They do not picture it as just another East Bay city nor do they want it to become part of a continuous group of cities and towns. They reject eventual merging of Livermore with the neighboring communities of Pleasanton and Dublin. They react favorably to the concept of the City acquiring the hilltops and suitable open land in and around Livermore but this enthusiasm is cut somewhat when the suggestion of higher taxes is presented to them. They will accept some apartments and other multi-unit dwellings but for the most part they want the City to retain its single family home character. They don't want Livermore to lose its small town/rural atmosphere. About six out of every ten adult residents feel they will be living in Livermore ten to twenty years from now.

In conclusion, it would appear to us that most residents want the emphasis placed on the development of a local transportation system, an improvement in transportation to nearby communities and to the Oakland/San Francisco area, improvement of shopping facilities within Livermore, control of air pollution and the development of limited business and industry within the City of Livermore.

D. POPULATION-ECONOMICS

The foundation of the community and its most essential resource is its people. The size and the character of the population are the truest indicators of the level and demand of services and of the ability to pay for them; they are equally accurate indicators of leadership and labor force quality explicit in economic and community development; and they give dimension to spatial requirements for living, working, and playing.

Therefore, the demographic and economic analysis and projections for the Planning Area in this report become basic determinants in deciding alternative futures.

1. Demography - 1976-2000

a. Of the Region

The region, consisting of the nine Bay Area Counties, had a population of 5,203,700 as of July 1, 1980 and is anticipated to have a year 2000 population of approximately 6.2 million. It has been projected that between 956 and 1,042 square miles of land will be necessary to accommodate such a population. Currently 832 square

miles are urbanized.¹ Present residential zoning in the region is alleged to be sufficient for a population ranging from 12 to 25 million, more than enough to accommodate even the highest projections which is the total of all General Plans for the area.²

b. Of the County

Alameda County as of July 1, 1980 had a population of 1,105,379 and is anticipated to have a year 2000 population of 1,286,800.³ Most of the anticipated growth is allocated to the South County Area, while the Oakland Metropolitan Area has tended to stabilize or even decrease. This would result in a 16% increase in population over a 20 year period or a .82% average yearly increase.

c. The Livermore/Amador Valley

The Livermore/Amador Valley Planning Unit as of January 1, 1975, had a population of 101,000. By 1980 this had increased to 110,000.⁴ It is anticipated the population will reach 157,000 by 2000, a 20 year increase of approximately 42.7%, or an average increase of 2.1% per year.

d. Of the Livermore Planning Area

The population of Livermore grew from 16,100 to 51,946 between 1960 and 1984. This was an average addition of 1,494 persons a year. For the ten year period from 1971 to 1980 the average annual growth rate was about 2.2 percent. Between 1975 and 1980, the population remained relatively unchanged.

Approximately 12.9% of all housing units in 1980 were occupied by minorities. While this is low, it does represent nearly a 1% increase over the level in 1974. Blacks account for 0.7% of the population while about 8% are Spanish speaking or Spanish surname.⁵

1. From ABAG, "Projections '83", June 1983

These represent the most recent estimates of development potential in an area based on current zoning, general plans, and other local policies, in conjunction with regional employment and population forecast over the period 1980 to 2000.

2. ABAG, "Zoning & Growth in the San Francisco Bay Area - Issue Paper 3", January 1973.

3. From ABAG, "Projections '83", June 1983.

4. U.S. Census 1980

5. Ibid.

Livermore is a young community with nearly 44% of its population below the age of 25; only 5.9% are in the retirement age 65 or over. ⁶ This compares with 6.4% in 1970. However, population projections indicate that the median age will rise from 26.8 years to 32.7 years by the year 2000. This indicates that the population of Livermore is aging.

Projections also show a decrease in the number of school age children reflecting the effect of fewer persons per household and a stabilized low birth rate. (Table II-2)⁷

TABLE II-I
POPULATION GROWTH TRENDS
(000 omitted)

<u>Year</u>	<u>City of Livermore</u>	<u>% Inc.</u>	<u>Livermore Amador Valley</u>	<u>% Inc.</u>	<u>Alameda County</u>	<u>& Inc.</u>
1960	16.1		30.1		912.6	
1965	25.3	57.1	46.9	55.8	1022.7	12.1
1970	37.3	47.4	79.1	68.7	1073.2	5.1
1975	48.3	29.5	101.4	28.2	1092.8	2.1
1980	48.1	- .4	110.0	9.1	1101.1	.8
1984	51.9	7.4	--	--	1172.0	5.7

Source: Livermore City Clerk; U. S. Bureau of the Census, and the State Department of Finance for 1960-1974; Grunwald, Crawford and Associates for Planning Area projections; and County Planning Department for the Livermore-Amador Valley and Alameda County.

6. Ibid.

7. From Alameda County Planning Dept., February, 1976.

TABLE II-2
NUMBER OF SCHOOL AGE CHILDREN

Livermore Planning Area

<u>Year</u>	<u>Number of Children</u>			<u>Special Education</u>	<u>Subtotal</u>	<u>Population</u>	
	<u>Elem.</u>	<u>Inter</u>	<u>High School</u>			<u>%</u>	<u>Total</u>
1960	2750	660	780		4190	26	16,058 ⁸
1970	6890	1790	2870		11550	31	37,703 ⁹
1975	7752	2284	3900	122	14058	30.6	45,901 ¹⁰
1980	6042	1850	3837	124	11853	24.2	48,107
1984	4856	1757	3422	244	10259	19.7	51,946

Source: U. S. Federal Census, 1960, 1970 and 1980, Special Census City of Livermore, 1974 - Projections by Grunwald, Crawford and Associates. City of Livermore, City Clerk; Livermore Valley Unified School District.

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- 8. City of Livermore.
 - 9. Ibid.
 - 10. Ibid.

2. Growth Rate

Since 1970 the region as a whole has been experiencing a declining growth rate due primarily to significant drop in the birth rate and in-migration, the latter resulting from a depressed national economic situation and a shift in growth to other parts of the country. This trend, however, began to shift by 1984, as the area began to experience a boom in employment growth.

TABLE II-3
POPULATION GROWTH 1970-1980¹¹
(000 omitted)

<u>Year</u>	<u>Livermore</u>	<u>Alameda County</u>	<u>ABAG Region</u>
1970	37.7	1,071.4	4,763.1
1971	40.0	1,085.2	
1972	42.9	1,094.4	
1973	45.6*	1,089.2	
1974	47.4	1,089.3	
1975	48.6	1,091.4	
1976	48.8	1,096.9	
1977	48.9	1,990.9	
1978	49.2	1,103.5	
1979	48.6**	1,100.1	
1980	48.1	1,101.1	5,134.4
1984	51.9	1,172.3	

* Benchmarked to 1970 census

** Benchmarked to 1974 special census

Source: (1) California Department of Finance

11. Source: California Department of Finance.

3. Employment and Commuting Patterns

Historical data on total employment in the Livermore/Amador Valley (LAV) is shown in Table II-4. Projected employment growth from 1975 - 2000 for Livermore is significant.

Job Distribution

Table II-5 shows the job distribution by industry sector in 1980 and its projected distribution by the year 2000. These projections prove consistent to the employment trends in the valley region as the percentage of jobs in the service sector are reduced while those in the manufacturing, retail, and other (high tech jobs - construction) show an increase. Agriculture continues to decline consistent with the valley wide trend.¹²

TABLE II-4

EMPLOYMENT IN LIVERMORE/AMADOR VALLEY
1980-2000

<u>Year</u>	<u>Occupied Dwelling Units</u>	<u>Employed Residents</u>	<u>Services Employment</u>	<u>Basic Employment</u>	<u>Total¹³ Employment</u>
1980	30,933	36,395	14,321	21,627	35,948
1985	35,138	40,716	15,820	25,180	41,000
1990	38,215	43,475	18,020	34,080	52,100
1995	41,262	45,931	20,630	45,170	65,800
2000	43,557	47,366	23,520	58,380	81,900

<u>Year</u>	<u>Resident Population</u>	<u>Job/ Housing Ratio</u>	<u>Residents/¹⁴ Job Ratio</u>
1980	94,866	1.16	2.64
1985	102,305	1.17	2.50
1990	106,081	1.36	2.04
1995	110,979	1.59	1.69
2000	114,758	1.88	1.40

Source: Projections '83, 1980-2000 ABAG, June 1983

12. ABAG Projections 83 - June 1983.

13. Sum of Basic and Local Serving Employment.

14. Resident Population divided by Total Employment.

LIVERMORE EMPLOYMENT

TABLE II-4A

	Services Employment (Industries serving <u>local population</u>)	Basic Employment (Employed in <u>basic industries</u>)	Total Employment
1980	10,488	8,029	18,517
1985	11,440	8,760	20,200
1990	13,160	10,540	23,700
1995	14,550	13,050	27,600
2000	17,370	16,570	33,940

Incremental

1980-85	952	731	1,683
1985-90	1,720	1,780	3,500
1990-95	1,390	2,510	3,900
1995-2000	2,820	3,520	6,340

Projections 83, ABAG

TABLE II-5
OCCUPATIONAL DISTRIBUTION

1980-2000

<u>Occupation</u>	1980		2000	
	<u>Livermore-LAV</u>		<u>Livermore - LAV</u>	
Agriculture & Mining	2.1%	2.2%	1.0%	.8%
Manufacturing & Wholesale	12.6%	14.4%	14.0%	29.0%
Retail	12.5%	21.6%	16.2%	22.0%
Service	56.6%	40.0%	51.2%	28.7%
Other	16.2%	22.0%	17.6%	20.0%

Sources: ABAG Projections '83
1980 U.S. Census

a. Employment Projections

Two sets of employment projections are included. The first is shown in Table II-6. The second, the "balanced projection", shown in Table II-7, assumes that Livermore will attain a typical ratio of jobs per 100 households as have the Tri-Valley and Livermore Valley.

The Tri-Valley cities¹⁵ were developed as bedroom communities oriented toward the major employment centers of Oakland and San Francisco. The area is now experiencing a dramatic change as the employment growth is projected to outpace the development of residential lands.

The Association of Bay Area Governments (ABAG)¹⁶ projects that by the year 2000, approximately 74,027 new jobs will be created in the Tri-Valley Area of which 62% (45,900) will be created in the Livermore/Amador Valley and 20.8% (15,400) in the City of Livermore.¹⁷

TABLE 11-6

EMPLOYMENT BY INDUSTRY
Livermore/Amador Valley
1980-2000

<u>Industry</u>	<u>1980</u>	<u>1990</u>	<u>2000</u>
Agriculture/ Mining	778	720	680
Manufacturing/ Wholesale	5,178	12,250	23,500
Retail Trade	7,772	10,760	18,050
Sources	14,321	18,020	23,520
Other	7,899	10,420	16,170
TOTAL	35,948	52,170	81,920

15. Sources: 1980 U.S. Census

16. ABAG Projections '83.

17. Ibid.

TABLE II-7

"BALANCED" EMPLOYMENT PROJECTION

2000

	<u>Total Employment</u>	<u>Households</u>	<u>Jobs/Household Ratio</u>
Tri-Valley	42,480	29,050	1.5
Livermore/ Amador Valley	81,920	51,100	1.6
Livermore Planning Area	33,900	24,600	1.4

b. Effects of Alternative Employment Projections on Commuting

In 1970, there were 21,700 households and 21,000 jobs within the Livermore/Amador Valley (LAV). The number of LAV residents working outside the LAV was between 11,100 and 13,500. This amounted to between 45 and 50 percent of the total employment force.

If by 1990 52,100 jobs locally (LAV) were realized, the number of outbound LAV commuters would probably be reduced while, the number of inbound commuters would increase. However, there would be a better jobs/housing balance than is now the case. Jobs/housing balance does not imply that each community should reflect the regionwide ratio of jobs to housing. Neither is it implicit that all workers should be employed in the community in which they live. Commuting across jurisdictional boundaries is an integral part of metropolitan life, reflecting the economic and cultural diversity which makes such regions viable.

c. Commuting Patterns

An analysis of commute patterns of Livermore residents showed that 33.5% of all wage earners commute out of the LAV travel 30 minutes or more to work.¹⁸ The patterns of commuting are particularly affected by the age of the household head by whether the person is the principal or secondary wage earner, by occupation and by household income.

18. 1980 U. S. Census.

TABLE II-8
COMMUTING PATTERN
BY TRAVEL TIME TO WORK

<u>Distance/Time</u>	<u>Percent</u>
Less than 5 minutes	2.5
5 to 9 minutes	12.7
10 to 14 minutes	19.9
15 to 19 minutes	18.9
20 to 29 minutes	12.5
30 to 44 minutes	16.6
45 to 59 minutes	8.4
60 or more minutes	8.5
	100.0

Source: 1980 U. S. Census

4. Income and Retail Activity

Table II-9 shows a comparison of total income trends and projections for the Planning Area, the Valley, the County, the Region, the State and the Nation. Total personal income in the Planning Area is projected to increase by more than 156 percent from 1974 to the turn of the century.

The historical trends and projections of retail sales are shown in Table II-10. Total retail sales are projected to increase by nearly 177 percent during the next 25 years. This reflects the sizeable increase in personal income and the fact that a greater share of the sales in convenience goods and shopper goods will be made locally. The extent to which these projections are realized will depend primarily upon the business community's desire and ability to sustain aggressive merchandising programs and upon the development and redevelopment of the Central Business District.

TABLE II-9

PERSONAL INCOME TRENDS AND PROJECTIONS

Selected Areas

1960-2000

(Millions of 1974 \$'s)

Year	Liv. Plan Area	% of Co.	Liv/Amador Valley	Alameda County	S.F. Bay Region	Calif.	United States
1960	94.0	2.1	141.4	4503.7	18065.2	70353.9	671136
1965	141.1	2.5	241.0	5640.8	23626.9	91101.0	846703
1970	226.5	3.4	453.9	6681.2	29020.1	112397.8	1031519
1974	302.1		627.2	NA	NA	125500.0	NA
<u>Projections</u>							
1075	328.9	4.2	679.0	7726.8	34574.4	134137.0	1251487
1980	396.0	4.5	857.0	8782.8	40245.3	157074.5	1436923
1985	470.8	4.7	1071.6	9915.1	46417.0	184539.6	1634089
1990	550.3	4.9	1309.6	11200.0	53240.7	210614.6	1847024
1995	658.5	5.2	1564.9	12614.2	60651.1	241348.3	2062976
2000	774.3	5.5	1845.6	13959.3	67601.4	271156.2	2272746

Source: Historical Trends; State Department of Finance

NA: Not Available

TABLE II-10

TOTAL RETAIL SALES (1974 \$)
Livermore Planning Area (000s)

<u>Year</u>	<u>Conv. Goods</u>	<u>Eat & Drink</u>	<u>Shopper Goods</u>	<u>Bldg. Mtls.</u>	<u>Auto- Motive</u>	<u>Total Retail</u>
1963	18894	1846	9549	1921	8861	41071
1969	34571	4643	17755	2866	17317	77152
1974	49027	7352	17585	3335	13984	91283

- Projections -

1975	51452	8034	20719	3440	20098	103742
1980	62001	10827	26473	4190	22493	125985
1985	73781	14090	33086	5034	24952	150943
1990	86306	17736	40349	5938	27299	177628
1995	103337	22580	50078	7162	30662	213819
2000	121587	27993	60793	8483	33931	252787

Source: Retail Sales: California Franchise Tax Board

Projections: Grunwald, Crawford & Associates

E. ENVIRONMENTAL SETTING

1. The Planning Information System

In order to analyze the large and complex amount of environmental data available for the Planning Area, a computerized planning information system has been developed. All necessary physical data has been programmed into a computer which produced a consistent set of data maps together with a tabular summary of the data base.

a. Data Base Description

The data information system developed is grid based (cells). This involves electronically imposing a grid over the data maps and assigning the data value in the center of each grid cell to the entire cell.

The 139 square mile Planning Area was divided into a grid of approximately 36,000 information cells, each of which is 100 meters by 100 meters. The metric system was used so that interfacing with the Universal Transverse Mercator (UTM) coordinate system, which is used by most data gathering agencies, would be facilitated. Using a metric grid system does not necessitate plotting maps to a metric scale.

Fourteen basic data maps based primarily on existing information were the sources of nearly all the variables scored in the program. Some of the maps were used more than once to generate the following planning information system maps.

<u>Map Number</u>	<u>Map</u>
II-2	Cenozoic Deposits
II-3	Faults/Epiceenters
II-4	Landslides
II-5	Landslide Susceptibility
II-6	Surface Water
II-7	Flood Prone
II-8	Soils
II-9	Ag Preserves
II-10	Ag Capability
II-11	Vegetation
III-1	Slope
III-2	Erosion Hazard

III-3	Shrink-swell
III-4	Wildfire Hazard
IV-1	Land Use

By combining certain of these computer maps, the three composite suitability maps indicated below were generated as a means of determining the "opportunities and constraints" for urban development.

<u>Map Number</u>	<u>Map</u>
III-5	Hazard Suitability
III-6	Conservation Suitability
III-7	Recreation Suitability

The original computer maps, the Map Directory and the Cell Inventory are on file with the City. The Map Directory describes the method of collection, interpretation and source of the data. The Cell Inventory describes the data in each of the 36,000 cells.

The Planning information system can be used as follows:

(1) To show opportunities and constraints for development:

Once the data base was programmed in the computer, land capability maps were printed out which expressed the suggested goals and suitability values, thereby allowing tradeoffs to be made with full knowledge of the consequences. As policies and values change, the resulting land capability will reflect those changes.

(2) To evaluate environmental data:

The data and composite maps and the cell inventory report can be used to evaluate environmental data and findings in determining the content of Environmental Impact Reports (EIRs). They will help the city to determine when EIRs are needed and to evaluate the adequacy of an EIR.

(3) To introduce environmental considerations into the planning process at an early stage:

Environmental concerns can be incorporated into the planning process earlier and more comprehensively.

- (4) To indicate what mitigating measures are needed to minimize adverse impacts:

Using the composite maps and cell inventory, potential impacts can be identified. Early identification of impacts increases an understanding of what may be necessary to control those impacts.

- (5) To permit modeling effects of proposed changes:

Using the data and composite maps, the staff can do "what if" modeling and determine and demonstrate the effects of proposed changes.

- (6) To permit easy updating and refining of data:

As new information becomes available, data stored in the computer can be updated very easily.

- (7) To provide compatibility:

A primary concern was to make this information compatible with existing and developing information systems. The planning information system begun with this study can be expanded and refined by the planning staff as new information becomes available and it can be coordinated and supplemented with information systems being developed by State, Regional and County agencies.

2. Geology

The Livermore Valley is located at the northern end of the Diablo Range, which is a part of the northwest trending coastal range. The Valley is a structural depression formed by an east-to-west downfold, or syncline, along the Calaveras Fault. The Valley is bounded on the east by the Greenville fault.

a. Seismic Activity and Faulting

The Planning Area is located in the seismically active San Francisco Bay Region. The Region is extensively faulted and has experienced numerous earthquakes.

Within the Planning Area, at least 17 faults have been identified on Map II-3. Of these, eleven have been named as follows:

Parks Fault	Carnegie Fault
Mocha Fault	Livermore Fault
Tesla Fault	Greenville Fault
Verona Fault	Patterson Pass Fault
Williams Fault	Corral Hollow Fault
Las Positas (Reso. 307-80)	

In addition there are several secondary or branch faults. The known faults appear to have a strike-slip horizontal movement.

In accordance with the Alquist-Priolo Geologic Hazard Zone Act of 1972, the State Geologist is required to delineate wide special study zones to encompass all active and potentially active traces of the San Andreas, Calaveras, Hayward and San Jacinto Faults, and such other faults or segments of faults as he deems necessary. The hazard zones will be a minimum of one-quarter mile wide, but somewhat wider where multiple traces occur. The State Board of Mines and Geology is charged with establishing policies and criteria for future land use in those zones.

In the urbanized portion of the Planning Area two (2) active and one (1) potentially active faults will be identified. The two (2) active faults are the Greenville and Las Positas. The potentially active fault is the Livermore. These determinations are based on the report "Evaluation of Surface Faulting Hazards, Livermore General Planning Area, Livermore, California With Addendum dated April 9, 1980". The report is on file with the City Of Livermore Planning Department. (Reso. #307-80).

b. Landslide

Landsliding is a natural process of relatively rapid downslope movement of soil, rock and rock debris as a mass. The rate of landsliding is affected by the type and extent of vegetation, the slope angle, the degree of water saturation, the strength of the rocks, and the mass and thickness of the deposit.

The Landslide Map No. II-4 shows categories of landslide deposits and the acreage involved, including landslide deposits approximately 200-500 feet and more in the longest dimension. Four other categories shown on the map include bedrock, colluvial deposits and small alluvial fan deposits, alluvial terrace deposits, and alluvial deposits. Of particular interest are the colluvial deposits

and small alluvial fan deposits and alluvial terrace deposits which may be subject to landslides.

The Landslide Susceptibility Map No. II-5 is an isopleth map showing percentage of area covered by landslides. The mapping method consisted of first mapping all deposits, and then moving a grid across the area to count the number of grid cells containing landslide deposits. This map is, therefore, a statistical measure of landsliding abundance and probably the best indicator of landslide susceptibility.

c. Mineral Resources

The Planning Area contains the single largest concentration of sand and gravel deposits in the Bay Area. These resources are second only to fossil fuels as the most valuable material extracted from the earth. These resources are low-cost commodities; transportation is the major cost factor in marketing these materials. The size and close proximity of these deposits to other Bay Area cities means that this valuable resource is significant regionally and locally. Besides their economic worth, these resources must also be considered protection areas because they are non-renewable. Extraction of these resources also impacts on the immediate vicinity and often competes for lands which have equally important resource value.

The inventory of existing land use shows there are over 1,833 acres or about 2 percent of the Planning Area used for sand and gravel extraction. The mining is concentrated in the western portion of the Planning Area and extends into the Pleasanton Area for a total of over 3,000 acres. The quarries in this area also act as an open space buffer between the two cities and are designated as "secondary open space" in the Alameda County Open Space Element.

Preliminary investigation by the State Division of Mines, U.S.G.S., and other sources indicates the existence of several other mineral resources in the Planning Area. However, their importance does not appear significant.

d. Unique Geological Areas

Areas of geological significance for educational, scientific and/or scenic purposes are not extensive. Alameda County, LARPD and the City consider

the Tesla Area of geological significance because it was once a mining area where fossils and other souvenirs are frequently found. The Citizen's Committee on General Plan Goals considered the Patterson Area of geological significance. These two areas are in the Altamont foothills between the Patterson Pass Road and Tesla Road where the geologic structure is a jumbled mixture of upper cretaceous marine, upper Miocene marine and middle and/or lower Pliocene non-marine sedimentary and meta-sedimentary rock.

3. Climate

a. Temperature

Latitude, altitude and the interacting influences of land and sea are primarily responsible for the temperatures in the Planning Area. Summer temperatures are usually warm during the day and cool at night. Through July, August and September, afternoon temperatures typically range in the 80's with minimums usually in the low 50's. An extreme maximum of 113 degrees F was recorded. During the winter, temperatures average in the middle 30's with maximum temperatures in the upper 50's or low 60's. Nighttime temperatures drop to 32 degrees F or lower for about one-third of the time in December and January. An extreme minimum of 21 degrees F was recorded.

b. Temperature Inversion

Inversions are a common weather phenomenon. Air inversion during the summer and fall seasons is the condition of air temperatures increasing with elevation instead of decreasing at the normal rate of about 3.5 degrees F per 1,000 feet of elevation.

The type of inversion which is most significant to the Bay Area and the Livermore-Amador Valley is a subsidence inversion. Inversions can occur at any time due to atmospheric motions, but are most likely to occur during the summer because of the presence of a large high pressure system located west of the coast.

c. Precipitation

Precipitation at Livermore averages 14.74 inches annually. Over 60 percent of the annual rainfall occurs in the winter months. Precipitation patterns within the Planning Area vary widely with

considerable greater rainfall occurring on the ridges. In the Valley lowlands, average annual rainfall drops to 13 inches. In the Altamont Hills, east of Livermore, the average is 10 inches.

d. Relative Humidity

This is the percentage of moisture held in the air in relation to the total amount of moisture capable of being held in the air at a given temperature. Average values of relative humidity (RH) are about 70 percent in the morning, decreasing to 52 percent in the afternoon. Higher values occur during stormy winter periods. In January an average RH of 90 percent is common in the morning. In the afternoon, it decreases to around 70 percent. In October the average early morning humidity is in the low 60's and decreases to 35 to 40 percent as the day warms.

4. Air Quality¹⁹

The recent history of smog conditions shows that the Livermore-Amador Valley has recorded among the highest levels of any area within the San Francisco Bay Area. This greater susceptibility to smog is a result of a unique combination of conditions involving topography, meteorology and source of reactive precursor emissions.

The Environmental Protection Agency (EPA) limit for oxidant (0.08 ppm) which Federal law states is not to be exceeded for a period of one hour more than once annually, was exceeded for at least one hour between 188 days per year and 40 days per year over the period 1969-1973.

The contribution of Bay Area emissions is less than previously anticipated. Current upper limits on Bay Area pollutants in the Valley are estimated at an average 30 percent. Future Bay Area contributions can be expected to be even less as population within the Livermore-Amador Valley (LAV) increases.

Although various studies differ as to exactly how much of the emissions are imported from outside the Valley, they all agree that these severe oxidant problems are due to auto travel, estimated at 2 million vehicle miles traveled (VMT) daily within the LAV. Even with a more "balanced" employment projection, commuting by 1990 would increase 40 to 50 percent over the 1970 levels.

19 From Environmental Impact Report Supplemental Analysis Population Growth and Air Quality in the Livermore-Amador Valley -A.D. Little, July 1974.

Moreover, even with the introduction of mass transit, the air quality condition will be difficult if not impossible to reverse because the ratio of hydrocarbons to oxides of nitrogen is such that further increases in low speed automobile operation will be especially conducive to formation of oxidant.

Based on the "track record" to date in convincing the public of the need to substitute other modes of transportation for the private automobile, the prospects for improvement through the use of mass transit are not encouraging.

The amount of time that the standards will be exceeded will depend upon many factors including the magnitude of population growth, future automobile emission standards, meteorology and VMT reduction measures. After 1990, the oxidant problem is expected to worsen even if all emission controls are in effect and the population undergoes only modest expansion.

Although it advances the "state of the art" of predicting future pollution levels for this region, the analysis reported in the Air Quality Task Report still must be considered preliminary. In fact, the most significant finding was that there is just not enough specific data available concerning this highly complex problem to serve as a reliable basis for making model predictions, other than for the broad conclusions stated below. The most vital need is for more information about the local meteorology which governs the dispersal of air pollutants and, hence, the concentration of pollutants in the ambient air; and, secondly, for an ongoing monitoring and surveillance program to relate oxidant levels to meteorological conditions. Only through such a continuing program will it be possible to determine the effectiveness of mitigating measures.

Any hope of reducing the level of emissions will depend upon attacking the problem on a broad front: enforcement of more strict auto emission controls, slower growth rate, substantial increase in the use of regional and local transit systems, greater dependence upon bicycles and walking, new job opportunities for local residents and, finally, dramatic improvement in the internal combustion engine.

More recent studies reported in the LAVWA EIS concluded that to meet national ambient air quality standards between now and the year 2000 the population of the whole Livermore-Amador Valley could not exceed 1/2 its present level in the absence of mitigating measures other than automobile emission controls.

a. General Conclusions

- (1) Regardless of population level (low, medium or high projections) the oxidant level in the LAV will continue to exceed Federal air quality standards.
- (2) Given the worst meteorological conditions which occur during May through October, there is virtually no chance of meeting State or Federal oxidant standards in the Planning Area in the future, regardless of the effectiveness of the proposed Federal auto emission controls.
- (3) Given the intermediate meteorological conditions, those that are not as severe as the worst but more severe than the average), all projected Federal emission controls and the low population condition, oxidant levels in major portions of the Planning Area will still exceed by nearly twice the Federal standard.
- (4) Given the intermediate meteorological conditions and current auto emission controls, the oxidant level over the entire central portion of the Planning Area will range from 2 to 5 times higher than the Federal standard.

5. Hydrology

a. Historical Development

The City of San Francisco has dominated water development in the Livermore Valley since 1898 when the independent Spring Valley Water Company completed a group of water wells at the Bernal Well Field. Water from these wells was piped to San Francisco.

In 1930, San Francisco bought the Water Company. The Hetch Hetchy Aqueduct was completed by that city in 1934 and exportation of groundwater from the Livermore Valley ended. During 1948 and 1949, water was again exported while the second phase of the Hetch Hetchy was completed. With the construction of the San Antonio Reservoir in 1964, the San Francisco water development plan in the area was complete.

In the early 1900's, most of the agricultural and domestic water demands of Livermore Valley were met from groundwater, augmented by minor amounts from

local streams. In 1962, the first deliveries of imported water were made through the South Bay Aqueduct of the State Water Project. Del Valle Dam and Reservoir, a unit of the State Water Project, was completed in 1969, and provide additional water supplies through storage and regulation of imported South Bay Aqueduct water and conservation of runoff from Arroyo del Valle.

Groundwater levels generally underlying the Livermore Valley dropped from an average elevation of about 280 feet to 250 feet from the late 1950's to the early 1960's. During the 1960's, levels remained about the same, but in 1970 they began to rise as a result of importation of water, conservation of surface water, and retention of waste water. The continued rise in water levels may, under certain conditions, result in excessively high groundwater levels in portions of the Livermore Valley.

b. Description of Hydrologic Units

The Livermore/Amador Valley is divided into two major hydrologic units or water basins, which extend beyond the political boundaries of Alameda County. They are: (1) the Livermore Hydrologic Unit; and (2) the Sunol Hydrologic Unit. Both are confined within the Diablo Range and extend over 675 square miles or 430,000 acres. All streams and creeks flow together in the Livermore Valley near Pleasanton forming the Arroyo de la Laguna, which then flows into Alameda Creek near Sunol and out of the Livermore-Amador Planning Unit through Niles Canyon to San Francisco Bay. The geographic area comprising the Livermore Unit extends south of the highlands surrounding San Antonio Valley in Santa Clara County where the headwaters of the del Valle originate. Runoff from the surrounding hills flows northwest into the Livermore Valley where it joins with the Arroyo de la Laguna near Interstate 680 and Bernal Avenue west of Pleasanton. This unit extends north to include streams which flow out of the Upper Amador Valley.

c. Surface Sources

The five major streams entering the Livermore Valley are Arroyo las Positas, Arroyo Mocho, Arroyo del Valle, Alamo Creek, and Tassajara Creek. Minor creeks include Arroyo Seco, Altamont Creek, Cayetano, Collier, and South San Ramon. All the creeks converge into the Arroyo de la Laguna, which

is the only stream flowing out of the Livermore Valley. (Map No. 11-6)

d. Groundwater

There are six different physiographic areas recognized in the Livermore Hydrologic Unit. Clockwise from northwest, they are the Orinda Upland, Dublin Upland, Altamont Upland, Livermore Valley, Livermore Upland, and Livermore Highland. These physiographic areas are based upon elevations, slope, geologic formations, and soils, and relate directly to the hydrologic significance and importance of the area.

The Livermore Valley is geologically different from the surrounding uplands and highlands. It is composed of two distinct water bearing formations that are the major reservoirs of water storage. Historically, the groundwater basin reservoir has provided domestic and agricultural supplies to Valley residents.

Materials of these water bearing formations yield adequate quantities of groundwater to all types of wells. The formation can be described as multi-layered systems having an unconfined upper aquifer over a sequence of leaky, or semiconfined aquifers. Groundwater in the formations moves downslope toward the longitudinal axis of the Valley. It then moves in a generally westerly direction toward the Bernal Sub-basin.

A major portion of water used in the Planning Area is pumped from the groundwater reservoir. In recent years, the use of imported water flowing into the Valley from the South Bay Aqueduct and the Hetch Hetchy Aqueduct has increased in response to enlarging population and recognition of the need to conserve the groundwater reservoir. Water consumption by domestic users has more than doubled in the last 15 years, indicating the shift from agricultural to domestic-urban land use. Principal source for agricultural use is still groundwater.

e. Quality

The mineral quality of both surface and groundwater in Livermore varies considerable depending upon location, but generally is suitable for most uses. Poor quality water occurs in the eastern part of Livermore Valley where high concentrations of dissolved minerals, particularly boron and chlo-

ride, cause most water to be unsuitable for irrigation purposes. Groundwater in the Valley generally is hard and must be softened for domestic use.

Groundwater quality problems in Livermore Valley are associated largely with the occurrence of excessive concentrations of nitrate, chloride, boron and total dissolved solids.

Recharge areas, important interchange points between surface water and aquifers, are the gravel pits and the stream channel deposits. The stream channel deposits consist mainly of loose well-sorted sand, gravel and boulders. These deposits have a Unified Soil Classification of GP and a permeability of 10 feet/day (75 gallons/day). These stream channel deposits occur along the active channels of Arroyo del Valle, Arroyo Mocho, Arroyo Seco, Arroyo Las Positas and other tributary streams.

f. Flooding

The 100 year flood plain, or the land area which would be expected to be covered by floodwaters as a result of storm conditions with a 1 percent chance of occurrence in any given year has been mapped (See Map No. II-7). Floodprone areas total about 5,000 acres, of about 6 percent of the Planning Area. Impetus for the adoption of floodplain policies and regulations has been provided by the California Environmental Quality Act and the Federal Flood Disaster Protection Act of 1973. In regard to the latter, the Federal Flood Insurance Administration currently is having the floodprone areas mapped.

The Federal Government regulates development through the requirements of the Flood Protection Disaster Act of 1973 as administered by the Federal Flood Insurance Administration. The Act limits issuance of flood insurance to existing and new construction until the Flood Insurance Rate Map is completed. Thereafter, new buildings constructed within "the hazard area" will not be eligible for flood insurance unless adequate mitigating measures are taken.

The area below Del Valle Reservoir, which could be expected to be inundated as a result of dam failure, has been mapped by the State Office of Emergency Services and is shown on Figure II-3. The City of Livermore in cooperation with the County of Alameda will prepare a disaster relief plan which

should be incorporated as part of the community's Environmental Resources Management Element.

g. Reservoirs

The Del Valle dam and reservoir were built by and are owned by the State of California's Department of Water Resources (DWR) for control of downstream flow for flood prevention and for irrigation demands. The watershed above Del Valle is of critical State concern. The design and development of the recreational facilities have been the responsibility of the State Department of Parks and Recreation, while the East Bay Regional Park District is responsible for the operation of the park (3,500 acres) under an agreement with DWR.

6. Soils

The Soil Types Map No. II-8 shows the soil types found in the Planning Area. The soil types were described and then grouped and colored according to the seven soil associations.²⁰ Three are identified as soils of the Upland and four as Soils of the Terraces, Alluvial and Floodplain.

a. Soils of the Uplands

- (1) Altamont-Diablo association: Moderately steep and very steep, brownish and dark gray, moderately steep soils on soft sedimentary rocks.
- (2) Vallecitos-Parrish association: Moderately steep and very steep, brownish and reddish brown soils on metasedimentary and basic igneous rocks.
- (3) Millsholm-Los Gatos-Los Osos association: Moderately sloping to very steep, brownish soils on moderately hard sedimentary rocks.

b. Soils of the Terraces, Alluvial Fans and Floodplains

- (1) Yolo-Pleasanton association: Nearly level to sloping grayish brown, very deep soils on floodplains and low terraces.

²⁰ USDA, Soil Conservation Service, Soil Survey: Alameda Area, California, March, 1966

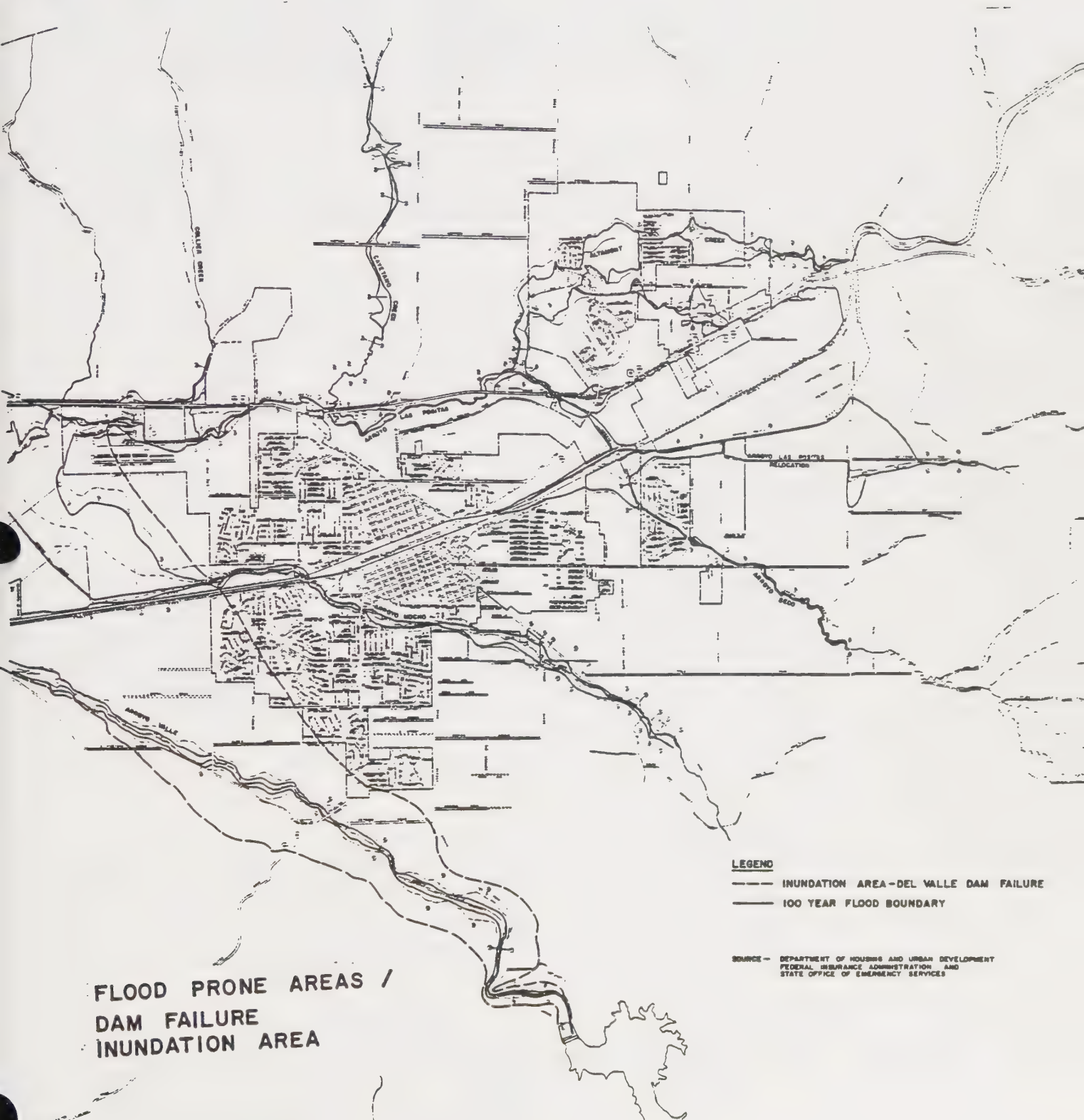
- (2) Positas-Perkins association: Nearly level to very steep, brown, shallow to moderately deep soils on high terraces.
- (3) Clear Lake-Sunnyvale association: Nearly level, to sloping, dark gray, very deep, well-drained to imperfectly drained soils on floodplains.
- (4) Rincon-San Ysidro association: Nearly level, shallow to very deep, pale brown and grayish-brown soils on older fans and floodplains.

The physical properties, which were provided by the Soil Conservation Service, served as the basis for determining land use opportunities and constraints.

7. Agriculture

Significant agriculture remains in the Planning Area in vineyards, livestock, poultry and field crops. The estimated value of the agricultural products for the Planning Area in 1974 was nearly five million dollars, representing about 25 percent of the total value reported for the County.

FIGURE II-3



The California Land Conservation Act (The Williamson Act) provides cities and counties with a means for preserving open space. The Act was established by the State of California to preserve prime agricultural lands that are threatened by urbanization. Amendments to the Act have permitted other open space lands to be covered, such as grazing land and land devoted to recreational or open space use.

Except for some vineyards and very little prime agricultural land (Class 1 and 11 soils), much of the land in the Planning Area that is under contract is either not of good quality or not subject to urbanization pressures.

Agricultural Preserves, shown on Map No. II-9, total about 50,460 acres, or 57 percent, of the Planning Area. However, due to the changing nature of the lands under contract, this map requires periodic updating.

The Agricultural Capability Map No. II-10 places all soils into eight capability classes. The Classification shows in general the suitability of soils for crops, grazing, recreation, wildlife, water supply or aesthetic purposes. For agricultural purposes, the hazards and limitations of use increase as the class number increases.

Class 1 and 11 soils occur in Las Positas Valley, east of the City, in isolated spots south of the City, particularly along Arroyo del Valle, and west of the City. Urbanization has occurred on some of the Class 1 and 11 soils with the remainder being in the historical path of urban growth. Other examples are in isolated areas east and south of the City which can reasonably be retained for agricultural purposes. In general, Class 1 and 11 soils are considered of State, Regional and County importance.

8. Vegetation and Natural Areas

The system of classification used for mapping purposes, Vegetation Map No. II-11, was slightly modified from that developed by A. C. Smith.²¹ In this system, eight biotic communities are identified and described below.

a. Urban

This classification includes all those lands contained within the present city limits, lands devoted to sand and gravel extraction, and Lawrence

21. Smith, A.C., The Natural History of the San Francisco Bay Region, U. of California Press, Berkeley, 1959.

Livermore Laboratory and Sandia. Native and introduced species are easily observed within this classification and include a great variety of introduced trees, shrubs and garden plants found in parks, along highways and in golf courses and residential areas, which should not be overlooked in a vegetation map.

b. Agriculture

This classification includes vineyards, orchards and general agriculture. These areas are especially sensitive to economic, political and environmental concerns.

c. Riparian Woodland

The narrow border of vegetative cover occurring along creeks and arroyos in valley and foothill areas benefits numerous wildlife species by supplying escape cover, roosting cover, resting cover and nesting cover. This habitat type forms a transition between a variety of adjacent but dissimilar habitats. Species diversity and abundance is often greater in this zone than in either separate habitat type. Riparian habitat is extremely limited in its distribution throughout the Planning Area and any acreage lost from this habitat will result in direct loss of wildlife. This habitat is of State and Regional concern. The County has recently developed a Specific Plan for Areas of Environmental Significance in which riparian woodland is included.

The riparian woodland community is highly susceptible to the loss of soil nutrients, soil moisture increase or decrease, change in existing plant community composition, endangered or destroyed regenerative capacity of plant community and increase in plant community susceptibility to disease. Survival also depends on (1) the extent to which certain plants can withstand the rush of water at maximum flow; (2) the extent to which plants survive repeated siltation; and (3) the extent to which plants can withstand desiccation in the dry seasons. The watercourses exhibiting the riparian woodland community are Arroyo Las Positas, Arroyo Seco, Arroyo Mocho and Arroyo del Valle, with the latter being the best example. Indicator species include the Western Sycamore, Fremont Cottonwood, Red Willow, Arroyo Willow and Big Leaf Maple.

d. Valley Grassland

This classification is found in the lowlands and the rolling foothills adjacent to the agricultural plant community. Grassland and scattered oaks extend over the rolling hills north of Livermore in Doolan and Collier Canyons extending east through the Altamont foothills and south to Arroyo Seco. In the upland areas south of Livermore, isolated grasslands are interspersed with the woodlands and chaparral communities.

The composition of the grasslands has changed from the bunch grasses to non-native annual grasses. This change is due to overgrazing and the introduction of annual weeds and grasses. Natural Valley Grasslands are virtually non-existent.

After winter rains, the grasslands contain a wealth of attractive wildflowers in the springtime. They include such characteristic species as buttercups, poppies, fuschia and others.

During the dry period in late summer and autumn, the grasslands are highly combustible. Both surface and rooted material die completely, thereby providing more fuel for fire.

In general, the value of grassland to wildlife is partially dependent on the pattern of adjacent differing habitats which can provide escape and nesting cover not present in these open areas. Grasslands provide both food and cover for many of the smaller animal species. For larger wildlife species, particularly raptors (hawks, eagles, etc.), they are most important as feeding areas.

e. Freshwater Marsh

Whether marshes are permanent or seasonal has a profound effect upon the vegetation and animals they support. Seasonal marshes contain native species that requires fluctuating water levels. This habitat is used by the same mammals, birds and other wildlife associated with riparian areas. Also it can be important as a feeding, resting, nesting and breeding area for waterfowl and shorebirds.

This habitat is not distributed extensively and frequently, but is merely an extension of the same species found in the Riparian Community. It is found along the fringes of Lake Del Valle and San Antonio Reservoir and in scattered areas around springs, ponds, creeks and arroyos, with Arroyo del Valle being the best example.

Indicator species include Common Tule, California Bulrush, Common Cattail and sedge.

f. Oak Woodland

This community occurs primarily between 400 and 3,000 foot elevations. The arid condition of the foothills in the Altamont area provides an ideal climate for the oak savannah. In this community, low density stands and scattered solitary trees such as Valley Oaks and Coast Live Oaks predominate; they form an open canopy under which the same grasses and annuals grow that predominate in the Valley Grassland Plant Community. Brushy Peak, northeast of Livermore, is a good example of oak woodland. Frequently, this community is found in the bottom of gullies which drain seasonal rainfall, and in the foothills south of Livermore. Indicator species at low elevations include Valley Oak and Coast Live Oak. At higher elevations are found Blue Oak and Digger Pine. At all elevations are Holly-leaf Cherry, California Coffee Berry, California Buckeye and Poison Oak.

g. Chaparral

This dense shrubby vegetation can be found in the higher, drier, usually westerly-facing slopes of the upland. Specifically, it inhabits the southwest-and-west facing slopes in the uplands south of Livermore with an average rainfall of 14 to 25 inches. Indicator species include Chamise, Scrub Oak, Holly-leaf Cherry, Buckrush, California Coffee Berry, Manzanita and Wild Lilac.

h. Broadleaf Evergreen Forest

This community can be found on northeast-and east-facing slopes between 200 and 2,500 feet in the uplands south of Livermore. Rainfall usually averages between 25 and 40 inches. Evaporation and evapotranspiration from ground surface and plant leaf surfaces is reduced by the northeastern slopes, which are exposed to less direct sunlight and direct wind, and the shade of the canopy of trees. Indicator species include Tanbark Oak, California Bay Laurel, Madrone, California Buckeye, Coast Live Oak, Douglas Fir and Digger Pine.

i. Desert

Corral Hollow is the northern limit of many desert plants and animals, the only desert-type habitat close to the Bay Area and the habitat for several rare and endangered plants and animals.

9. Rare and Endangered Animals

Table No. II-11 summarizes information on rare and endangered animals.

TABLE II-11

RARE AND ENDANGERED ANIMALS IN PLANNING AREA

<u>Name</u>	<u>B.S.F.</u> <u>F.R²².</u> & <u>W²³.</u> <u>Ca.²⁴</u>			<u>Habitat</u>	<u>Comments</u>
<u>Mammals</u>					
San Joaquin Kit Fox (Reithrodontomys raviventris)	E	E	R	Grassland	Potential Habitat in NE corner of Planning Area.
<u>Birds</u>					
Southern Bald Eagle (Haliaeetus leucocephalus leucocephalus)	E	E	E	Primarily near open water.	Has been seen around Lake Del Del Valle and San Antonio Reservoir. Attracted to large bodies of water where fish and wildlife occur.
American Peregrin Falcon (Falco peregrinus anatum)	E	E	E	Open water, marsh grassland	Has been seen around Lake Del Valle and San Antonio Reservoir.
<u>Reptiles</u>					
Blunt-nosed Leopard Lizard (Crotaphytus wislezenii silus)	E	E	E	Grassland	Corral Hollow area.
Alameda Striped Racer (Masticophis lateralis euryranthus)			R	Grassland chaparral	Northern half of Alameda County. Definitely has been found in the Arroyo Mocho.

-
22. Federal Register. United States List of Endangered Native Fish and Wildlife, Vol. 35:199. October, 1970.
23. United States Bureau of Sport Fisheries and Wildlife. Rare and Endangered Native Fish and Wildlife of the United States. Resource Publications No. 34.1968.
24. California Department of Fish and Game. "At the Crossroads. A Report on California's Endangered and Rare Fish and Wildlife." January, 1972.

Rare and Endangered Plants

To help reduce the possibility of extinction of native plants of California, the California Native Plant Society produced an "Inventory of Rare and Endangered Vascular Plants of California" (1974) for the State Office of Planning and Research. This inventory comprises those plants considered of critical State and Regional concern.

a. Endangered

An endangered plant is one threatened with extinction which is not likely to survive if causal factors now at work continue operating.

b. Rare

A rare plant is one that exists in only one or a very few restricted localities, occurs in such small numbers that it is seldom seen or collected regardless of its total range, or exists only in habitat that could disappear or change for any reason.

The Inventory lists "rare species" only by counties of occurrence. In this category, three plants were listed for Alameda County, all of which could occur in the Planning Area. They are as follows:

- (1) Dirca occidentalis: Found on wet slopes of rocky hills below 1,500 feet, in mixed evergreen forest and chaparral.
- (2) Eriophyllum jepsonii: Found on dry, rocky, often serpentine slopes at 1,000 to 3,500 feet.
- (3) Fritillaria liliaceae: Found on heavy soil, open hills and fields.

Discussions with the director of the Native Plant Society Rare Plant Project, University of California, Davis, indicated that little concern is necessary for preserving rare and endangered native plants in the Planning Area.

11. Wildlife

Technically, wildlife includes all living things except plants. These vary from primitive unicellular animals up through a variety of invertebrates such as worms, molluscs

and arthropods. Wildlife, to most, implies the higher, more obvious forms--fishes, amphibians, reptiles, birds and mammals. Table II-11 summarizes information on rare and endangered animals.

The State Legislature and State Administration require that plans consider wildlife problems that are of critical State concern. Specifically, these concerns include rare and endangered wildlife, commercial and game species, seasonal concentrations and special habitats such as riverbanks, bays, estuaries and other wetlands, and anadromous fish streams.

The most abundant habitats in the Planning Area are grassland and woodland, which are also the most abundant in the State as a whole. Therefore, these habitats in the Planning Area cannot be considered critical from the standpoint of preserving a unique example of a vegetative type. However, the open rolling hills of grassland and woodland do play an important part in providing important habitats for concentrations of raptorial birds, mainly eagles and hawks.

The grasslands are the home of the rare San Joaquin Kit Fox at the northeast corner of the Planning Area. In the grasslands and chaparral, the rare Alameda Striped Racer has a broad expanse of potential habitat. It has been found in the Arroyo Mocho.

Southern Bald Eagles, an endangered species, have been seen at the reservoirs in the southern part of the Planning Area. These birds are also protected by the Federal Government. The endangered American Peregrine Falcon likes lake areas where waterfowl live; it has also been seen at reservoirs.

Limited freshwater marsh habitat exists in the Planning Area, mainly intermittently in the bottoms of arroyos. Here, water fowl, in no great concentrations, and other marsh-related birds and animal life exist. Marshes are important as resting, feeding and nesting grounds for birds. In general, the narrow border of vegetative cover which forms the riparian habitat benefits numerous wildlife species by supplying escape cover, roosting cover, resting cover and nesting cover. Any loss of this habitat will result in direct loss of wildlife. These riparian and marsh habitats are of outstanding recreational and educational value.

Of critical concern to the State are protection of rare and endangered species, protection of hawks and protection of riparian and freshwater marsh habitats in the Planning Area.

12. Archaeological/Historical Resources

a. Archaeological

The Livermore/Amador Valley formerly was the home of the Costanoan Indians, and a widely used trade route passed through the Valley. This tribe was one of four tribes which inhabited the nine Bay Area counties. These tribes were autonomous groups numbering 100-250 persons. Their name, Costanoan, was derived from the Spanish word "costenos," meaning "coast people."

There are thirteen known archaeological sites in the Planning Area. Somewhat less than exact locations are given because experience has taught that such areas are prey to curious and often destructive individuals. One site is located on a knoll west of Las Positas Creek and north of Interstate 580. Two sites are along Mines Road approximately 2,500 feet from the intersection of the South Bay Aqueduct and Mines Road. Ten sites are located approximately 3/4 of a mile due east of Brushy Peak. Other sites may exist along creeks, arroyos, protected foothill areas, watersheds and valleys.

b. Historical Resources

Sites, structures and artifacts which depict the heritage of the State, Region, County and Livermore serve to link contemporary man with the culture and accomplishments of the past. Historic symbols reflect the spirit and direction of growth, the architecture of different periods and the diversity of cultures. In so doing, they enhance identification of residents with the area and help assure that the historic and cultural contributions of early residents of the Livermore Area are remembered.

The list of historic sites in the Planning Area, compiled from Federal, State and local sources including the Amador-Livermore Historical Society, is included in the Environmental Resources Management Element proposals as shown on Table IV-2, Figure IV-1.

13. Visual Landscape Analysis

The Planning Area, largely unincorporated, has retained its rural character and natural setting, although it is accessible in less than one hour's drive from one of the most intensively urbanized areas of California. Yet, this same proximity to major metropolitan centers threatens the area's

rural character, visual excellence, and natural diversity and creates a high priority for the protection of the area's scenic resources.

The community is ringed by hills and mountains which provide visual relief from spreading development on the Valley floor. The terrain ranges from gently rolling in the north to a rugged, steep mountain range in the south. The continuity of the hills and mountains is occasionally broken by narrow canyons and valleys.

Cultivated agriculture occupies large portions of the Valley floor in rectangular plots with straight rows contrasting with the contour planting of the rolling foothills to the north. Vineyards occupy the southern portion of the Valley floor. They, like the other agricultural uses, lend form to the urban pattern. In the agricultural areas and the grasslands, farmhouses are scattered about, each nestled under a stand of trees. Windmills, barns, corrals and fences are randomly spaced on the landscape. From the Valley floor on a clear day, there are excellent and impressive views of Mt. Diablo rising above the foothills to the northwest. Brushy Peak is a round-topped landmark formation with a contrasting cap of darker vegetation located to the northeast. To the southeast are the rugged canyons and ridges leading toward Mt. Hamilton, although the mountain itself is not visible from the Valley.

A few low, rounded knolls separate the City from the rest of the Valley to the north and present a pleasant visual feature for travellers along Interstate 580. Rising on both sides of the highway, they form an attractive scenic corridor that is of local and Valley significance. A view analysis of this corridor was conducted. Observations were taken every 1/4 mile along I-580. The computer mapped the percentage of time the adjoining terrain is visible by motorists.

The identification of visual amenities provided a basis for assessing impacts to visual quality from proposed developments, indicating areas which need to be preserved and/or protected.

F. LAND USE

The Land Use Element is central to the General Plan. It analyzes the extent and distribution of every land use category involved in the community's future and relates the plans and policies of each of the other General Plan Elements to many interacting land uses.

The largest single use within the Planning Area is open space (83 percent), most of which is grassland. Acreage in vineyards and orchards has been declining.

Of the urban developed area, 50 percent is devoted to residential uses, 22 percent to streets (not including unimproved rights-of-way), and over 18 percent to public uses.

Over 5,500 acres are used for public facilities, 75 percent of which is used for parks and recreation facilities. Much of the acreage in public use will be adequate to serve population increase during the planning period.

Only about 400 of approximately 3,000 industrially planned acres have been developed. Most of the developed acreage includes a portion of the 640 acre Lawrence Livermore Laboratory site and Sandia Laboratories.

Of the total 88,960 acres, approximately 7,750 acres (8.7 percent) comprise urban uses within the built-up area. Land Use Map No. IV-1 and Table II-12 present existing land use within the Planning Area.

TABLE II-12²⁵EXISTING LAND USE IN THE LIVERMORE PLANNING AREA

<u>Land Use</u>	<u>Area in Acres</u>	<u>% of Planning Area</u>
Residential	3,560	4.0
Single Family	3,340	
Multiple Family	220	
Commercial	260	.29
Retail	220	
Office	40	
Industrial	1,630	3.0
General	790	
Quarry	1,080	
Quarry Permit	760	
Public Uses	5,503	6.2
Public Schools	485	
Parks & Recreation	4,120	
Govt. Office Space	7	
Fire Stations	1.5	
Water & Sewer	74	
Semi-Public Uses	265	.30
Streets	1,700	1.90
Miscellaneous	1,272	1.4
Other Public Facilities	815	
Open Space	73,770	82.9
Agri. Grass	71,790	
Vineyard	1,900	
Orchard	80	
TOTAL	88,960	100%

1. Overriding Land Use Constraints

- a. Added growth will aggravate air pollution problems within the Valley and create health hazards. In the short term at least, mitigating measures neces-

25. Source: Computed by Grunwald, Crawford & Associates from Land Use Data Provided by the Planning Department of the City of Livermore.

sary to "roll back" the impacts of growth on air quality are not anticipated.

- b. The Water Reclamation Plant is undergoing expansion to provide adequate sewage treatment for residential and industrial use. Total capacity to be added is approximately 1.25 million gallons a day. Further expansion of the Treatment Plant will depend on a local funding and user fees. Federal aid for plant expansion is limited due to the designation of the Valley as a "critical Air Basin." In an effort to comply with this limitation, a 2% population growth rate has been established.
- c. The LAVWMA export pipelines, which was completed in 1980, is limited to 15.62 mgd effluent export capacity to be divided among Livermore, Pleasanton and Dublin. Of this, 6.62 mgd has been designated for Livermore. This presents a long-term growth constraint.
- d. The designation of the Livermore/Amador Valley (LAV) as a "Critical Air Basin," in addition to restraining aid for sewer plant expansion, suggests that even if other growth problems are solved, LAV should not be allowed to grow significantly until air quality problems are corrected.
- e. While a 1967 market survey prepared for the City of Livermore by Development Research Associates, and based on local experience in attempting to attract major commercial uses, it has been indicated that since commercial facilities within the Bay Area were easily accessible and the size of the local trade area was then too small to support regional shopping facilities, development of a "Regional Shopping Center" locally was not anticipated during the period of the plan. However, Taubman Company constructed a "Regional Shopping Center" in Pleasanton in 1980, and it is anticipated that this will become a commercial and office center for the area.
- f. The need to conserve natural resources and the unsuitability of hazardous areas (floodprone, fault zone, slope, etc.) for development, greatly limit the land available for urban expansion within the Planning Area.
- g. The community has a desire to preserve the rural character of the Valley and to enhance its environ-

mental quality, the area's major attraction as a place to live and work.

2. Overriding Land Use Opportunities

- a. The environmental assessment system accompanying this plan provides easy identification of the general physical characteristics of all land and indicates suitability for urban development.
- b. Adequate sewer trunkline collection and water service can accommodate urban expansion during the short and medium range planning periods.
- c. The number of existing mixed land uses will not frustrate full development.
- d. Sizeable growth within easy commuting distance of the Bay Area can be accommodated under urban management provided by existing municipal government.
- e. The area has a desirable environmental setting conducive to suburban development.
- f. Existing and/or proposed regional water, sewer and transit systems can serve growth.

3. Land Use Projections

Of the 81,140 undeveloped acres within the Planning Area, nearly 17 percent (13,522 acres) is physically reasonably suitable for urban expansion. However, this percentage includes open space as a necessary component of the urban design; therefore, the net area remaining for urban uses is considerably less.

The gross amount of land devoted to all urban categories of land use in 1974 was 155 acres per 1,000 population. This rate is projected to decrease slightly because of somewhat higher densities and because many existing public facility sites will be adequate to serve added population. The gross additional acreage required during the planning period is approximately 5,000 acres, assuming the preferred maximum annual growth rate is not exceeded.

The land absorption rate for residential uses can be expected to decrease slightly in the coming years because of the increasing multi-family housing market and the trend toward smaller single family homes. The net residential density will increase much more than the gross density because open space will be provided within most developments, through planned unit development techniques and density transfer.

The Livermore business community should seek its own identity as a community shopping and service center through the timely development of the central business district, particularly the railroad relocation area. That project will bring a rapid increase in prime commercial acreage in the short and mid-term planning periods and help offset the possible drain of retail sales to a regional center.

Table II-13 presents the gross urban land demand for the Planning Area during the Planning period.

TABLE II-13²⁶

GROSS URBAN LAND DEMAND, 1975-2000

<u>Year and Category of Use</u>	<u>Acres Required</u>	<u>Factors for Choice</u>	<u>Gross Acreage Added for General Plan</u>
<u>1975-1990</u>			
Residential	1,485*	25%	1,855*
Commercial	90	25%	110
Industrial	250	50%	370
Public ²⁷	600	---	600
Semi-Public	90	20%	110
<u>1990-2000</u>			
Residential	1,720*	25%	2,100*
Commercial	60	25%	70
Industrial	120	50%	180
Public	320	---	320
Semi-Public	<u>70</u>	<u>20%</u>	<u>85</u>
<u>TOTAL</u>	4,805*		5,800*

*Revised in 1981 in conjunction with Housing Element Revision.

G. TRANSPORTATION-CIRCULATION

The overriding transportation issue is the minimizing of the number of vehicle miles traveled (VMT), both locally and by commuters. Nearly 2 million VMT are generated daily on the circulation system in the Livermore/Amador Valley (LAV). The majority are on the freeway and the largest contributors are commuters going to and from the Valley. To mitigate the

26 Source: Grunwald, Crawford & Associates

27 Public does not include acreage for minor streets or airport clear zone nor public open space other than parks.

problems of inconvenience, travel cost, energy consumption and air pollution, one of the highest priorities is a regional transit system. While the system may be growth inducing, the advantages of a highly responsive system could offset the disadvantages.

Regional and State transportation policy points toward developing and using transportation other than the automobile.

1. Streets and Highways

Beginning in 1976, Interstate 580 will be widened through Dublin Canyon to six lanes with an 80 foot median for future rapid transit. Grading will be for eight lanes.

State Route 84, following the First Street-Holmes Avenue alignment, carries an estimated 2,250 vehicles per day through Livermore. The City of Livermore and Alameda County are pursuing a joint powers agreement to purchase the remaining right-of-way along the Isabel Avenue alignment which will become the bypass route for State Highway 84, returning First Street to the City.

2. Non-Motorized Transit

The "Bicycle Route/Trailway System Plan" is a component of the General Plan which recognizes bicycling as an emerging form of transit as well as the potential of other non-motorized forms of transit to reduce automobile travel. (Reso. #281-81)

The need for a local transit system is demonstrated, in part, by the more than 2,280 persons within the City over 65, estimated 100 visually impaired persons, more than 1,200 persons with amputations or orthopedic impairments, and an additional 1,200 persons with other physical disabilities. There are also approximately 4,500 young people who are dependent upon the automobile to get to and from school.

The economic and environmental effects of private automobile transportation have added the middle income person to the list of those traditionally in need of a responsive local transit system.

H. PUBLIC FACILITIES AND SERVICES

The capacity of municipal systems, particularly sewer and water, is one of the most critical determinants of the community's future rate of development. Although the availability

of these services should not be the rationale for controlling growth, the management of these systems based on a sound plan and program for their phased construction does offer the greatest opportunity for directing orderly urban expansion to support the community's adopted development policies.

1. Municipal Sewerage System

The City's wastewater treatment facilities have the largest capacity of any plant within the Livermore-Amador Valley (LAV). Current capacity is five million gallons per day (mgd) dry weather flow. The first stage of the plant which currently serves the City was completed in 1959 and was designed for an average dry weather flow of 2.5 mgd. In 1966 the plant was expanded to 5 mgd. Primary and secondary treatment is provided through high rate filters and activated sludge processes with full nitrification followed by chlorination and oxidation ponds. This process allows reclamation of effluent for irrigation purposes. The municipal golf course, airport and nearby agricultural lands are irrigated before excess effluent is discharged into Las Positas Creek. In the past nearly 80 percent of effluent has been discharged into the Creek. Solids are piped to sludge lagoons following anaerobic digestion.

The plant is currently in Phase III of its construction program, a phase intended to meet the continually increasing water quality demands set by the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). Following this phase, tertiary treatment levels can be attained by further eliminating excess nutrients, both phosphates and nitrates. Phases IV and V as proposed by the Public Works Department are intended to increase plant capacity to an ultimate 10 mgd dry flow as well as to upgrade effluent quality. An interim phase now pending approval will add 1 mgd to existing capacity which is considered by the City as its share of E.P.A.'s 1976 sewer capacity allocation for the Valley. One element of the current construction project is a large storage reservoir which will allow better use of effluent for irrigation at the Junior College site and for I-580 landscaping. An agreement negotiated between the City and CALTRANS will allow the use of effluent for watering landscaping along State-maintained interstate roadways.

The plant currently processes over 4.6 mgd dry weather flow. Further increases in quality will be necessary to place limitations on nitrogen, chlorides and total dissolved solids by 1978.

Recent decisions by the State of California have significantly altered expansion plans for the Livermore Water Reclamation Plant. These decisions, brought about by poor ambient air quality are:

- a. Designation of the Livermore/Amador Valley as a "Critical Air Basin";
- b. Designation of the San Francisco Bay Area, including the Livermore-Amador Valley, as an "Air Quality Maintenance Area".

The effects of the designation are that the City cannot receive State and Federal funds to increase sewer plant capacity to serve a population which exceeds that total population projected for 1980 by the State Department of Finance as "E-O" population, nor can it receive funds until the EPA determines that the City has taken steps to mitigate its air pollution problem.²⁸

The E-O formula does not prohibit the City from expending its own funds for sewer plant expansion. However, the City has a responsibility to its own residents and residents of the Valley to avoid actions which are not supportive of State and national policies promulgated to protect the health, safety and general welfare. Furthermore, it would be unreasonable for the City to finance costly sewer plant improvements on its own when most other cities not similarly constrained by the E-O formula are able to take advantage of State-Federal financial assistance.

The designation of "Air Quality Maintenance Area" (AQUA) has been made by the State Air Resources Board in response to regulations promulgated by EPA in 1973.²⁹ These regulations require that California's plan for achieving and maintaining national ambient air quality standards designate those areas which are likely to exceed national standards within the period 1975-1985. Having made the designation, the State is required to develop a long-term maintenance plan to insure achievement of the air quality standards as soon as feasible and continued maintenance of the air quality standards

28 The E-O formula begins with the population of the City as of 1970, and projects population on the assumption of a fertility rate for women of child-bearing age of 2.11 children/women (E) and no net migration of population to California (O).

29 40 CFR, Section 51.12, Federal Register, June 18, 1973.

once they have been achieved. In light of this mandate to the State, the City has the responsibility to avoid actions which would further aggravate or degrade ambient air quality, and to thus avoid the possible imposition of State regulations which could prevent achievement of the goals of the General Plan.

On June 18, 1974, VCSD, Pleasanton and Livermore, the three valley sewage dischargers, formed the Livermore-Amador Valley Water Management Agency (LAVWA), a joint powers agency, to implement a wastewater management system.

The primary goal of the project is to preserve water quality and meet discharge requirements in the LAV, Alameda Creek, and the Niles Cone aquifer. The EPA has participated in the project because of its mandated goal to preserve the nation's air quality.

LAVWMA has the power to plan, design and construct a joint wastewater discharge facility for the three member agency. The individual members, however, will retain the responsibility of collecting and treating sewerage within their boundaries for transport to the LAVWMA facility.

Due to financial constraints, the project selection procedure, environmental considerations, citizen participation requirements, and voter approval for funding, it is doubtful that the LAVWMA facility can start construction before the spring of 1977. Until such a facility is constructed, the present discharge into the Arroyo Las Positas will be allowed.

2. Private Sewage Treatment Facilities

a. Veterans Administration Hospital

The V.A. Hospital is located approximately 3-1/2 miles south of Livermore on Arroyo Road. Its secondary sewage treatment plant has a design capacity of 0.5 mgd and is currently averaging 0.14 mgd from 600 patients and staff. The chlorinated effluent is disposed of by percolation and evaporation through holding ponds which are located along Arroyo Del Valle. Solids are removed to an anaerobic digester and after drying are disposed of on hospital lands.

b. Vallecitos Atomic Laboratory

The sewage treatment plant serving the Vallecitos Atomic Laboratory is located on laboratory property approximately 5 miles southwest of Livermore. The

plant receives mixed industrial and domestic waste. Industrial waste accounts for 97 percent of flow and is primarily spent water from the laboratory. The remaining three percent comes from the town of Sunol. Waste is treated by a septic tank and sand filter followed by retention in concrete lines basins. When the basins are full, the waste is monitored and, if found safe, discharged to Vallecitos Creek.

c. Septic Tanks

The number of septic tanks within the City has been declining in recent years as homeowners and industry have been encouraged to connect to the municipal system. Fewer than ten operating septic tanks are estimated to be within the City limits. Alameda County and the San Francisco Bay Regional Water Quality Control Board have taken steps to limit further septic tank development in rural areas.

3. Water Systems

The LAV constitutes a single water basin which is within the service area of Zone 7, Alameda County Flood Control and Water Conservation District. It is charged with the responsibility of supplying and distributing water in the LAV. Zone 7 currently contracts with the State for some 14,800 acre feet per year of water from the California Water Project (CWP). The entitlement from the State is as follows: 1975: 16,000 acre-feet; 1980: 22,000 acre-feet; 1985: 29,000 acre-feet; 1990: 37,000 acre-feet; and 1997: 46,000 acre-feet (maximum entitlement). Imported CWP water reaches the LAV by way of the South Bay Aqueduct (SBA). Some imported water is distributed untreated for agricultural use and to replenish underground aquifers, but the water must be treated for domestic consumption.

In 1960, Zone 7 began a program of water system improvement aimed at management and distribution of local groundwater and distribution of imported water. The first phase included construction of a water treatment plant on Patterson Pass Road east of Livermore to treat water from the SBA, a main transmission line to the Livermore Area and development of groundwater recharge facilities in Arroyo Las Positas and Arroyo Mocho. The second phase is intended to increase the quantity of water available, provide a valley-wide system permitting dilution of high salt content local groundwater with imported CWP, and protect and restore local groundwater through recharge. The second phase, expected to be in operation by the end of 1975, will increase peak capaci-

ty from 17.0 mgd to 26 mgd. Further expansion could increase this by an additional 9 mgd, but no specific date has been set for such expansion.

Not all of the water consumption in the LAV is supplied by imported water. Underground aquifers are tapped by wells operated by the City of Livermore, the California Water Service Company and Zone 7. The 1974 estimated maximum production capacity of the wells was 14 mgd. Studies conducted by the State have established the safe groundwater yield and the agencies contracting with Zone 7 for imported water agreed to accept as their annual quota of groundwater that amount they had pumped in the year prior to the contract. If they draw an amount greater than their quota, they must repay Zone 7 the cost of replenishing the underground source by that amount.

Since the use of underground water is limited, imported water will account for an increasing proportion of total LAV water consumption in the future. Consumption increases will be supplied with Zone 7 water.

As of 1976 the principal domestic water distributors in the Planning Area are the California Water Service Company (CWSC) and the City of Livermore. In addition, San Francisco Water Company provides service to Lawrence Livermore Laboratory, Sandia, and Valley ranchers while Zone 7 provides untreated water service to local ranchers.

The California Water Services Company is a privately owned public utility which serves a large area south of I-580. The CWSC services its 13,000 customers from the Company's 13 wells and from water purchased from Zone 7. The wells have an estimated operating capacity of 6 mgd. The company's pumping quota, as established by contract with Zone 7, is about 3,100 acre-feet per year.

The City purchases water from Zone 7 water treatment plant at Patterson Reservoir and provides water to 3,000 customers in the north and east area of Livermore, which is not serviced by CWSC. The City has only one well, which provides water for the Municipal Airport and golf course facilities. It will not be used when additional Zone 7 water becomes available.

The service areas of the two water service entities are shown in Figure II-4. The entire Planning Area lies within Zone 7.

a. Water Requirements - 2000

Table II-14 presents estimates of the community's water requirements to the year 2000. Comparison of

these estimates to Zone 7 entitlements and CWSC pumping quota reveals that the problems of water supply are related primarily to production capacity and distribution facility expansion and not to the need for additional quantities.

Estimates show that even if population within Zone 7 increased at rates established during the 1960's, sufficient water would be available to sustain a Livermore population over 100,000 before the Zone 7 contractual allotment is reached.

TABLE II-14

WATER REQUIREMENTS - 2000

	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
Population	50,000	55,200	61,000	67,300	74,300	82,000
Unit water use, gpcd ³⁰	165	170	175	180	185	190
Average Daily Demand, mgd	8.25	9.38	10.67	12.11	13.74	15.58
Peak Day Factor ³¹	2.0	1.94	1.91	1.88	1.85	1.82
Maximum Daily Demand, mgd	16.50	18.20	20.39	22.76	25.43	28.35
Annual Demand acre-feet	9,250	10,500	11,950	13,550	15,400	17,450

4. Fire Protection

Fire protection within the Planning Area is provided by the State Department of Forestry, Alameda County, the City and other public fire protection services. The majority of residents within the Livermore Area are served by the Livermore City Fire Department which is rated class 4A by the National Board of Fire Underwriters. With the addition of a new station at Holmes and Concannon and the relocation of Station #1 to East and Almond, virtually all developed portions of the City will be covered in terms of desired response time.

30 Brown & Caldwell, Water Quality Management Plan for the Alameda Creek Watershed Above Niles, gallons per capita per day (gpcd).

31 Ibid.

As of 1976, the department is operating with 46 firefighters. A 17-man volunteer force supplements the regulars. The volunteer force is needed over the long term due to the need for trained personnel in the event of a major emergency and during frequent multiple or simultaneous alarms.

The City entered into a Mutual Aid agreement with surrounding jurisdictions in 1962. The current agreement is one of the most comprehensive in California and includes the following agencies or districts; The City of Livermore Fire Department; the City of Pleasanton Fire Department; the Alameda County Fire Patrol; the San Ramon Fire District; the VCSD Fire Department; Veteran's Administration Hospital; Camp Parks Fire Department at Santa Rita; and the Lawrence Livermore Laboratory (LLL). In addition, the fire patrols of Sandia Corporation and the G.E. Vallecitos Laboratory, although not part of the official agreement, offer assistance in the case of a radiological mishap.

All agencies within the Mutual Aid Agreement communicate on the same radio frequency. The LLL serves as the activator for all mutual aid responses and also verifies that units are rolling to the fire scene. There is no reimbursement among agencies for services rendered.

5. Flood Control

Zone 7 is responsible for planning and designing major storm drainage facilities in the LAV. Its report, Major Drainage Facilities - Zone 7, indicates the long range flood control plan for the area.

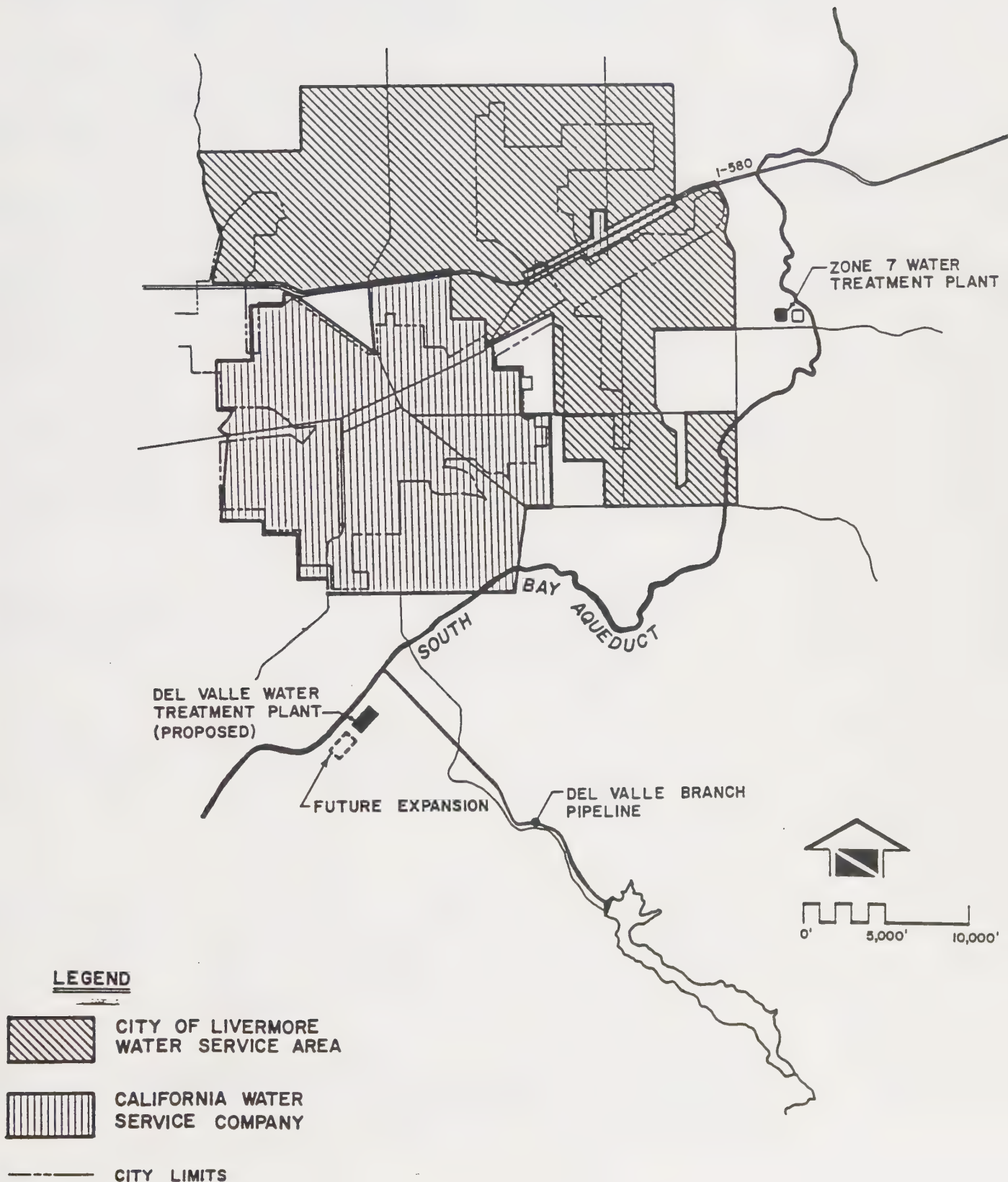
The Army Corps of Engineers' recent mapping of the 100 year storm flood prone areas for the Federal Flood Insurance Administration is shown in Figure II-3, Environmental Setting. The final report on the project is still subject to review; therefore the map and the Zone 7 plan may yet be modified.

6. Public Schools

a. Livermore Valley Unified School District

Public education for kindergarten through high school is provided through the Livermore Valley Unified School District (LVUSD)

WATER SERVICE AREAS



The District currently has fifteen elementary (K-6), three intermediate (7-8), two high schools (9-12) and one continuation high school.

The two high schools are used in the evening for adult education classes. Some elementary and secondary school rooms are available in the afternoons and evenings for youth activities and community use.

In addition to the classrooms the following administrative facilities are in use by the District: nine libraries or resource centers; eight multipurpose rooms; six music rooms; 12 rooms equipped for use with Educationally Handicapped (EH) and Educatable Mentally Retarded (EMR) children; and kitchens for preparation of hot lunches. The space for some of these activities is provided by seven trailers and a portahouse.

The school district faces the dilemma of high schools being currently over capacity and elementary schools fluctuating at capacity. Yet the school-age projections indicate a decline in school-age children within the next few years.

b. South County Community College District

Livermore is a part of the South County Community College District. The Livermore Junior College campus, which recently opened, has a current enrollment of 425 day students and 500 evening students.

Current construction will increase capacity to 1,000 day students and 1,000 evening students. The District's long range master plan projects 10,000 day and evening students.

7. Health Care Facilities and Services

Comprehensive health planning within the Livermore Area is the responsibility, in part, of the Alameda County Comprehensive Health Planning Council (ACCHPC). Additionally, the Livermore/Amador Valley is included in the California State Department of Health Facilities Planning Area 419.

The ACCHPC provides extensive services through Pleasanton Health Care Center, the Valley Mental Health Clinic and the Santa Rita Substation.

Hospitals in the Planning Area include the 112-bed Valley Memorial Hospital in downtown Livermore and the 198-bed Veterans Administration Hospital located south of the City.

Three nursing homes, two in Livermore and one in Pleasanton, have a total of 140 beds and are certified to provide 24 hour skilled nursing service for chronically ill and convalescent patients. Also within the Planning Area are four private residential care homes for the aged.

The Tri-Counties Ambulance Service operates within the Planning Area and is subsidized by Livermore, Pleasanton and Alameda County through joint powers agreement.

An inventory by the Citizen's Committee of doctors practicing in the area shows the following:

Physicians

General Practice	8
Pediatrics	6
Obstetrics & Gynecology.	4
Internal Medicine.	2
General Surgery.	2
Other.	<u>22</u>
Total	44

Dental Care

Dentists	30
Oral Surgeons.	4
Orthodontists	<u>2</u>
Total	36

Other

Chiropractic Doctors	4
Podiatrists	3
Optomitrists.	6
Dispensing Opticians.	<u>2</u>
Total	15

Concern is rising about the shortage of physicians, especially general practitioners. This shortage can be partly attributed to a rapid growth rate which has exceeded the supply of doctors as well as to the air

pollution problem which has caused several doctors to locate elsewhere and may discourage a doctor from establishing a home in the Valley.

8. Other Community Facilities

Livermore is reaching the population size where a large public meeting place and civic theater/convention center is required. At present, the library has the largest City-owned public meeting room in the area, with seating for approximately 50. School multi-purpose rooms and classrooms, LARPD facilities, churches, and private facilities help fill the heavy demand for meeting space. The Community Facilities Subcommittee on the General Plan agreed that a civic meeting hall of about 300 seats would be a valuable addition to the City. Such a facility is envisioned as part of the adopted Community Park-Civic Center Plan. Also, need for a multi-purpose recreation/community center to include a full size gymnasium is recognized.

The senior citizens are a group which requires special attention. The Community Facilities Subcommittee estimates that there are over 650 seniors active in various programs within the City, yet no facility is available for the exclusive use of senior citizens for such activities as crafts, cards, outdoor and indoor recreation and worship. Such a facility should be provided in conjunction with a transportation program for the elderly.

A Community Service Center is proposed which will provide needed office space, especially for health, welfare and social services. Other vital needs which could be served by the center include; a child day care program, a child preschool program, a State Unemployment office, a Manpower Development Training program, and other community services. The center should be located on a site which is large enough to permit expansion and which is in close to downtown.

The need for a new City Hall is clearly demonstrated by the scattered location of current City office space, the cramped conditions and the lack of space for expansion. The Administration Building shown on the Community Park Civic Center Site Plan will provide office space for most functions of City government.

9. Solid Waste Management

Virtually all solid waste in the Planning Area, and all of the Bay Area, is disposed of in sanitary landfills.

By definition, no burning of solid waste occurs at a sanitary landfill. Landfills are closely monitored by regional water quality control boards to insure maximum groundwater quality.

Solid waste collection in Livermore is provided by the Livermore-Dublin Disposal Service, a subsidiary of the Oakland Scavenger Company. Refuse is hauled to the Eastern Alameda County Disposal Site, on Vasco Road, four miles northeast of Livermore. It is estimated that the site will be available well into the next century at the present rate of filling.

Based on 4.2 pounds per capita per day (pcpd) of solid waste generated currently and a projected increase in the rate each decade of 0.5 pounds pcpd, the estimated future total solid waste generated in the Planning Area will be as follows:

	<u>1975</u>	<u>1990</u>	<u>2000</u>
Population	50,000	67,300	82,000
Lbs/Capita/Day	4.2	4.7	5.2
Solid Waste lbs/Day	210,000	316,310	426,400
Solid Waste Tons/Day	105	158	213
Solid Waste Tons/Year	38,325	57,670	77,745

10. Livermore Communications Monitoring Station

The Federal Communication Commission (FCC) Livermore Monitoring Station, constructed in 1947, occupies a 115 acre site located between May School Road and Hartford Avenue, approximately 0.8 miles east of North Livermore Avenue.

The station is responsible for enforcing FCC regulations and fulfilling international treaty obligations relating to effective management of the radio spectrum. The Livermore Station is one of 16 FCC Monitoring Stations in the United States and is the only station in California.

FCC requirements for a new site state that a monitoring station should be at least one mile from any existing or potential industrial or congested residential areas. Relocation reportedly would involve large monetary expenditures (\$500,000 to \$1,000,000). According to FCC, property suitable for a monitoring station is virtually non-existent in the San Francisco Bay Area. Relocation to a more remotely located site would reduce the station's effectiveness by placing the Bay Area

outside of its coverage. Although it has no official policy on the matter, the FCC does not foresee moving the Livermore station in the future and would like to see strong City and County policies adopted with respect to urbanization within the one-mile radius of the monitoring station.

In spite of the Regional and State significance of the monitoring facility and the problems involved in moving it, past land use plans have not included preservation of the station at the present site.

11. Gas, Electric and Telephone Services

Gas and electric service are supplied by the Pacific Gas and Electric Company. Services are regulated by the Public Utilities Commission which has recently considered impacts of new developments on energy consumption and determined that no additional restrictions on new development are warranted at this time.

Telephone service is provided by the Pacific Telephone and Telegraph Company (PT&T). At the present time, there are 17,653 effective main stations in the Livermore Area. With Planned additions, the central office in Livermore will have 23,000 effective main stations, adequate to about 1980. The number of effective main stations is assumed to increase to one service for every 2,5 persons. Applying this ratio to the population projections results in the following:

	<u>1975</u>	<u>1990</u>	<u>2000</u>
Population	50,000	67,300	82,000
Effective Main Stations	20,000	26,920	32,800

Recent orders issued by the PUC established two programs to place public facilities underground. The first order concerns residential uses and requires underground placement in new single-family and multi-family subdivisions of five or more lots or in new residential developments of five or more dwelling units in two or more buildings located on a single parcel of land. The second order regulates new commercial or industrial development on a single parcel of land. These decisions will substantially improve the appearance of new residential, commercial and industrial development. The City's subdivision ordinance also requires all utility service and distribution lines and electrical transmission lines of less than 50 KV to be placed underground. The County

also requires underground utilities in residential subdivisions. Commercial developments subject to site development or administrative review, and industrial park subdivisions must also place utilities underground.

The PUC has also issued an order setting forth the conditions by which the utility will replace its existing overhead distribution facilities with underground facilities. Relatively little money is available under this order.

Major gas and electric utility easements traversing the east side of the Planning Area (north and south) and the south side of the Planning Area (east and west) and PG&E's 24 inch gas main which runs diagonally from the vicinity of the airport to the northern boundary of the Planning Area, offer opportunities for incorporating segments of land within the open space systems of specific plans.

12. Police Protection

The incorporated portions of the Planning Area are served by the Livermore Police Department. The department has a 42 man force and is headquartered in new facilities within the Civic Center. Protection within unincorporated areas is provided by the Alameda County Sheriff's Department from the Santa Rita substation. The Sheriff's Department also provides back-up services to the Livermore Department. The California Highway Patrol has jurisdiction over State highways and County roads.

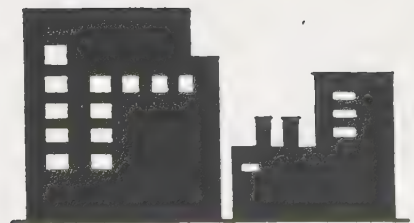
With the completion of new headquarter facilities, the Livermore Department now has adequate space to expand police services to meet the needs of the City until the end of the planning period.

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PART III

GOALS AND POLICIES OF THE GENERAL PLAN



PART III

GOALS AND POLICIES

A. INTRODUCTION

Many goals and policies evolved during the General Plan program beginning with the Citizen's Committee report on goals. It is assumed that the goals contained within Part III of this report ---

1. are worthy of eventual achievement regardless of factors which might act as obstacles under current conditions;
2. reflect the interest of the entire Planning Area since such interests clearly transcend those of the City;
3. will require periodic re-examination to determine adjustments based on technological, economic or social change;
4. reflect varying degrees of responsibility among the several levels of government and the private sector.

The policies identify the role of City government as a catalyst, supporter, coordinator or responsible party for community action programs. A major premise is that while local government exists to provide a variety of services needed by the local population, local government cannot be expected to provide solutions to all problems. A related premise is that the State and Federal government cannot be expected to solve problems or meet needs which require action at the local level and which can be dealt with by local government. A third premise is that the private sector of the economy and a wide variety of community organizations are also responsible for meeting certain needs of the community. A fourth premise is that the community cannot afford to ignore problems simply because they may be controversial or difficult, or because they require a substantial commitment on the part of the community to deal with them effectively.

B. POPULATION-ECONOMIC GOALS AND POLICIES

1. Goals for Urban Growth

- a. It is the goal and overriding responsibility of the City to promulgate policies and programs which will result in the management of growth in such a manner as will best serve the health, safety and general welfare of its residents. Neither growth for its own sake nor restrictions upon growth unrelated to this overriding responsibility is included in the meaning of this goal.

- b. It is the goal of the City that the management of community growth will assure that the natural amenities and environmental qualities which are presently enjoyed and are among its greatest assets, can be successfully improved, preserved, and enhanced.
- c. It is the goal of the City to achieve a balanced relationship between residential development and commercial and industrial development to provide local employment and to realize an adequate tax base.

2. Population Growth Policies

- a. It is the overriding policy of the City that future growth shall not exceed the community's capability to provide services. In particular, school classroom facilities, sewerage treatment capacity, treated domestic water, public parks and recreation, and public safety services shall be the principal factors considered. It shall be the continuing responsibility of the City to monitor these factors to assure compliance with the goals and policies of the Plan.
- b. It shall be the policy of the city to establish a growth rate which supports the above goals and policies and which takes into consideration all the factors affecting population changes, State and Federal policies and standards relating to the environment, the recommendations of the Citizens' Committee, the problem of severe air pollution in the Valley (Air Quality Element Page 27), the need for suburban areas to accommodate their "fair share" of regional population growth with due regard for the ABAG Regional Plan, energy conservation and historical growth patterns relative to the Bay Region and Alameda County, the natural growth rate of the Livermore-Amador Valley, the need to fill in some neighborhoods in the City so that they will become self-sufficient, the need to provide more low and moderate income housing, and the need for viable local employment and commerce opportunities.
- c. It shall be the residential growth policy of the City to plan for an average residential population growth rate of between one and one-half percent and three and one-half percent (1 1/2% - 3 1/2%) of the then present population in a calendar year. The computation of the one and one-half percent to three and one-half percent (1 1/2% - 3 1/2%) growth

rate shall not include small projects of four(04) units or less.

To encourage development of very-low income units, projects that reserve between 35% and 50% of the units for very-low income residents shall not be required to participate in the competitive review process. Very-low income projects will be included in the calculation of the City's annual growth rate. (Reso. 92-339)

The detailed implementation process of the growth rate shall be established by the City Council but shall include the following general steps.

- (1) Determine a Specific Three-Year Housing Program: Using the Housing Element of the General Plan as a guide, the City shall develop a Three-Year Housing Plan. In developing the Plan the City shall consider among other issues; infrastructure requirements and limitations as they relate to the proposed growth including but not limited to capacities of the sewer and water and street systems of the City, service requirements including schools, safety and administrative services, environmental impacts and constraints, the low and moderate housing needs of the City, and the current job growth rate in Livermore. (Reso. No. 261-87)

The program would delineate:

- (a) the number of each type of dwelling unit to be built;
 - (b) where in the City the units will be built;
 - (c) other amenities necessary to accommodate the identified housing.
- (2) Determine the Specific Yearly Growth Rate for the Three Year Period: Using the total number of dwelling units to be built during the three year period as determined in (1)(a) above, the annual growth rate shall be determined. This rate must be within the range set by the General Plan.
 - (3) Calculate a Yearly Housing Allotment: Multiply the growth rate by the number of existing dwelling units to determine the yearly housing allotment.

- (4) Determine Winners in Competitive Review Process:
Developers shall submit an application consisting of:

- (a) a concept site plan showing street and lot layout, number and types of units, building footprints, etc.
- (b) typical elevations of buildings, walls, carports, fences, etc.
- (c) plans that show landscaping, usable open spaces and other amenities.

The City will evaluate and rank the applications using the goals of the Three-Year Housing Plan (see 1), and the other criteria and standards of the implementation process.

- (5) Award Housing Allocations: Those projects determined eligible to receive allocations will proceed with the normal subdivision, site plan, design review, and other necessary approval processes.
(Reso. No. 261-87)

- (6) Projects that are exempt from either the competitive process or the growth rate, are subject to the normal subdivision, site plan, design review, and other necessary approval processes.
(Reso. No. 92-339)

- d. The unused portion of any year's approved development, if the development is not extended, may be reallocated. The actual growth rate must meet the goals and policies of the Plan. The need for a growth rate policy and the basis for the rate selected is as follows:

- (1) Experience over the past 15 years has demonstrated that public services, especially schools, sewer, safety, and administrative services cannot be reasonably provided for growth rates in excess of five percent.
- (2) Livermore is a part of a Critical Air Basin. Studies of air pollution in the Valley indicated that minimum Federal Air Quality Standards will not be met in the Livermore/Amador Valley by 1990 even if the growth rate is zero. However, additional housing added at a rate of between one and one-half and three and one-half percent (1 1/2% - 3 1/2%) is not anticipated to create significant air quality problems. In addition, a range of between one and one-half and three and one-half percent (1 1/2% - 3 1/2%) could allow housing growth to more

closely match job growth in the area which would conceivable reduce vehicle miles traveled and therefore not impact air quality as significantly as might be expected. These studies also indicate that the air quality may not deteriorate with a maximum two percent (2%) growth rate if mitigating measures such as those in the ERME of this plan are carried out. (Reso. No. 261-87)

- (3) In considering what is the Community's "fair share" of regional growth, it must be noted that over the past five years San Francisco Bay regional growth averaged .82%, Amador County averaged .52% and the Livermore Valley averaged 4.8%. Moreover for twenty (20) years the City has taken 5 to 10 times its fair share.
- (4) The need for increased local employment and commerce has been cited as justification for higher and even uncontrolled growth. However, twenty years of experience with City growth rates in excess of 5% has demonstrated that more growth did not bring proportional commercial and industrial growth. In addition, half of the Livermore/Amador Valley work force commutes out of the Valley, constituting a potential labor force. Finally, surveys show that over half the local retail dollar is spent outside the Valley so a substantial potential exists for local commercial development.
- (5) The fill-in of some by-passed and some outlying areas of the City is necessary to complete service systems and improve the overall quality of life in the areas.

In summary taking into consideration all the factors for both higher and lower growth rates, this stated policy satisfies all the goals and other policies of the Plan.

- e. All residential growth shall be consistent with the policy that a proposed development must be in the best interest of the community as a whole, considering that our goal is to achieve balance in our community, which shall be understood to mean:

- (1) A geographical balance of the physical population on the terrain.

- (2) That the adverse impact of the residential growth on air quality be balanced by factors such as reduced VMT because of shopping facility locations and local employment of the residents.
 - (3) That the ratio of the industrial-commercial tax base versus the residential tax base will become more favorable.
 - (4) Absorption of natural growth rate.
 - (5) The need to provide more low land moderate income housing.
 - (6) Compliance with the goals and policies set forth in this plan.
- f. The City shall encourage and participate in programs in association with other communities within the Livermore/Amador Valley and other levels of government to achieve an acceptable Valley-wide growth rate which supports each community's adopted growth policy.

3. Economic Development Policies

- a. To strengthen the economic base in the Planning Area and to develop a central focus for the City, the Central Business District (CBD) shall be the exclusive location within the Planning Area for the development of all retail and commercial stores and services except those specifically allowed in neighborhood shopping centers, industrial, highway, service commercial, and community commercial areas. (Reso. No. 208-79)
- b. To rehabilitate the Valley environment by minimizing commuting, the City shall work toward achieving a more "balanced" economy by attracting greater diversification of employment opportunities, particularly those which can use the local labor force.
- c. To minimize the exodus of young adults, the City shall encourage development of college facilities and the expansion of job opportunities.
- d. To strengthen the economic base and to avoid the duplication of cost in delivery of urban services, the City shall unconditionally support the fundamental principle of sound urban management that "What is urban should be municipal". Therefore, all future urbanization within the Planning Area

shall be within the municipal control of the City of Livermore.

- e. To strengthen the tax base and to assist in creating greater job opportunities for local residents, the City shall encourage creation of a Livermore/Amador Valley economic development organization in association with other Valley communities.
- f. To support individual economic development efforts by the communities of Pleasanton and Livermore as a result of implementing Policy e, above, the City shall initiate a joint exercise of powers agreement between the two communities. The agreement shall set forth the purpose, the "ground rules" and the division of responsibility in the development of new job opportunities for local Valley residents. As a part of this mutual aid effort, the City shall participate in the development of a formula wherein both communities share in the economic rewards from expansion of the industrial tax base, regardless of which City attracts the industrial growth.

C. ENVIRONMENTAL RESOURCES MANAGEMENT GOALS AND POLICIES

1. Goals

- a. It is the goal of the City of Livermore to preserve and enhance the quality of living and prevent the degradation of the natural environment.
- b. It is the goal of the City of Livermore to seek an equitable distribution of the benefits derived from the management of natural resources, consistent with the interests of the area, the Region and the State, and to avoid decisions which result in an adverse environmental impact on specific areas.
- c. It is the goal of the City of Livermore to preserve for subsequent generations the greatest possible freedom of choice in the use and enjoyment of the area's natural resources; to maintain as many options for the future as possible; and to avoid overcommitments to urbanization creating irreversible changes in those environmental qualities which give dimension to the quality of living within the City.
- d. It is the goal of the City to seek ways to promote efficient and effective combinations of public and private effort to attain resource conservation and open space management.

2. General Policies

- a. The City shall take steps to offset the effects of environmental degradation which already have occurred, and seek an optimum balance between economic and social benefits to be derived from the Livermore Area's natural resources.
- b. Where conflicts occur, the City shall reconcile differences in favor of the general public good and shall protect the environment.
- c. The City shall collaborate with other levels of government to meet problems and needs which otherwise will be bypassed.

(1) Geologic Resources Policies

(a) The City shall retain as open space areas of unique geology important for scenic, scientific, educational, recreational or historical values.

(b) Where appropriate the City shall require vegetative screening as a conditional of approval of future mineral extraction operations to ensure the maintenance of scenic values.

(c) The City shall require plans for rehabilitation, enhancement and reuse of mineral extraction areas as part of any proposal for an extractive development.

(d) The City shall consider potential impacts of mineral extraction on air and water quality, on agriculture, vegetation and wildlife, and on scenic, visual, and recreation resources in the review of any extractive proposal. Any activity that would have an irreparable adverse impact or significant effect on the values of such resources shall be considered incompatible with the maintenance of these values.

(e) The City shall consider potential impacts of pollution, clogging or reduced infiltration associated with sand and gravel extraction operations on recharge areas or high permeable soils or flow between aquifers shall be considered incompatible with the maintenance of the recharge areas.

(f) The City shall carefully condition hillside development with respect to road design, grading, structural foundations, surface and subsoil drainage, excavation, earthfills and other operations to avoid soil erosion, scarring of the natural landscape, obstruction of scenic vistas, and the loss of natural vegetation and wildlife habitat.

(2) Air and Climate Resources Policies

- (a) All industrial uses within the Planning Area must meet Regional, State and Federal air pollution standards.
- (b) The City shall attempt to increase the ratio of employment to population to protect, preserve and enhance the air resources within the Planning Area, and shall urge other agencies within the Livermore-Amador Valley to do the same.
- (c) Where climatic and topographic factors are conducive to concentration of air pollutants, the location and arrangement of land use, population density, transportation facilities and performance, criteria shall reflect such factors.
- (d) The City shall seek means to meet State standards for emission of air pollutants so that a vegetation (including crops), the visual environment, and public health will be protected.
- (e) The City shall approve only those development proposals which are designed and located to minimize energy consumption and adverse impacts on air, land and water resources.
- (f) Until such time as the BAAPCD can reliably the extent to which population growth will adversely effect air quality, the City shall support a population growth policy for the Livermore/Amador Valley which will not increase the level of commuting by automobile use beyond the current level and to encourage all other agencies of the Livermore/Amador Valley (LAV), Alameda County, ABAG and resource

management agencies at the State level to do the same.

- (g) The City shall support economic development programs in the LAV which are intended to reduce the level of commuting by Valley residents and shall encourage all other LAV agencies, Alameda County, ABAG, and Resource Management agencies to do the same. To this end, new job opportunities in the LAV for Valley residents shall be actively pursued through local, State and Federal economic development programs, giving highest priority to those industries employing people in occupational groups which presently show high commuting rates to jobs outside the LAV. Furthermore, the highest priority shall be given to those potential employers who can show good probability of being able to fill over 65 percent of their new jobs by LAV residents.
- (h) The City shall strongly endorse methods for controlling geographic expansion regionally and preventing urban sprawl locally, minimizing travel, and encouraging new modes of transportation within existing urban areas. Higher density developments shall be encouraged through the use of specific planning, density transfer, the planned unit development concept, and high density residential zoning in and near the business districts. Generally, the highest priority for new development shall be assigned to those lands which will produce a "filling in" of the by-passed lands that have occurred over time during the process of development.
- (i) The City shall actively support programs to encourage the development and maximum use of regional and local mass transit systems. To this end, the City shall urge (1) a high priority be assigned to the funding and construction of the BART extension or public transit through the LAV, (2) the designation of special lanes on the freeway for the exclusive use of commuter buses during peak traffic periods, and (3) the close coordination in the operations of local and regional transit systems in order to minimize the travel

time between communities and major generating areas served by the regional system. As a part of such transportation coordination, the community's transit system shall serve as a link, with the regional system.

(3) Water Resources Management Policies

- (a) Groundwater withdrawal shall not exceed yields established by the State and the quality and quantity of groundwater shall be maintained or improved.
- (b) The City shall preserve recharge areas or highly permeable soils. Developers shall be required to mitigate possible adverse impacts upon such areas and no development shall be permitted that would have a substantial adverse impact.
- (c) The City shall use the arroyos, creeks, floodplains, Zone 7 rights-of-way and the South Bay Aqueduct wherever possible as components of the recreation trailways system, including development of pedestrian, bicycle and equestrian trails along their alignments.
- (d) The City shall take all necessary measures to regulate runoff from urban uses to protect the quality of surface and groundwaters and other resources from detrimental conditions.
- (e) Proposed public and private projects shall employ methods for management of vegetative cover, surface water runoff, groundwater recharge, erosion and sedimentation processes.
- (f) To the greatest extent possible, arroyos and creeks shall be preserved in their natural state and flood plains shall be required and maintained as an alternate to reconstructing channels to accommodate flood flows.

(4) Soils and Agricultural Resources Policies

- (a) The City shall control site preparation procedures and construction phasing to reduce erosion and exposure of soils to the maximum extent possible.

- (b) The City shall prohibit construction on soils with "severe" and "very severe" erosion hazards unless it can be demonstrated that the project will not cause an increase in erosion or sedimentation.
- (c) The City shall carefully control development on soils with "moderate" to "high" shrink-swell potential as to site grading, foundation design and construction to avoid site and structural damage resulting from those soil conditions.
- (d) The City shall prohibit development on expansive soils which are subject to a high probability of sliding; developments proposed below areas of expansive soils in foothill and mountainous areas shall be conditioned to avoid damage from potential slide areas.
- (e) The City shall take all possible steps to preserve the vineyards. Expansion of viticulture on lands rated "good and very good" for the production of wine grapes, as defined by the Soil Conservation Service shall be encouraged.
- (f) The City shall encourage the retention in open space as much land as possible for agriculture and viticulture and rangeland and grassland. (Resolution No. 167-83)
- (g) The City shall encourage the County to actively persuade agricultural landowners to enter the agricultural preserve program established under the Land Conservation Act, particularly in areas adjacent to patterns of urbanization encouraged by the General Plan and areas designated under Policy Nos. (e) and (f) above.
- (h) The City shall give priority to the preservation of Class I and II soils, and favor agricultural use over expansion of mineral extraction operations on such lands. Furthermore, only agricultural and related uses shall be permitted in areas designated for exclusive agriculture.
- (i) The City shall encourage soil conservation practices as recommended by the S.C.S.

(5) Vegetation and Wildlife Resources Policies

- (a) Riparian woodlands and freshwater marshes shall be preserved. Developers shall be required to mitigate possible adverse impacts upon these resource areas. No development shall be allowed that would have a substantial adverse impact or significant effect on such areas.
- (b) Habitats of rare or endangered species shall be preserved. Proposed development in such areas shall demonstrate a high degree of compatibility with, and minimal adverse impact on, these habitats.
- (c) As a part of the Alameda County Conservation Element, the County shall be encouraged to undertake a study to: (1) map the precise distribution of the rare and endangered species as to their number and sites; and (2) determine the sensitivity of these species to development, so that effective management programs can be developed.
- (d) Public access to areas identified as potential locations of rare or endangered plants and animals, (Corral Hollow and Cedar Mountain) shall be controlled to allow for compatible recreational use without over use and disturbance to vegetation and wildlife populations.
- (e) Corral Hollow, important as the most northerly range of both desert creatures and plants shall be maintained as open space.
- (f) Cedar Mountain, important for its restricted stand of Sargent Cypress, var., Duttoni, shall be maintained as open space.
- (g) An intergovernmental program shall be developed to reestablish the riparian community along major drainage ways in the Planning Area.
- (h) Grading and excavation in woodland areas shall avoid disturbances to subsurface soil, water or rooting patterns for natural vegetation.

- (i) The City shall encourage agricultural interests to maintain or develop areas of natural habitat for wildlife compatible with farm management objectives.
- (j) The City shall prohibit removal of trees within the incorporated area without special permission of the City.
- (k) The City shall encourage and cooperate with the County in establishing a program to preserve representative examples of natural and near natural landscape communities, such as Brushy Peak, Corral Hollow, Cedar Mountain and Sycamore Grove.
- (l) The City shall encourage the State to continue and expand current fishery practices of stocking streams and reservoirs, including but not limited to Lake Del Valle, San Antonio Reservoir, Shadow Cliffs Park, Arroyo Del Valle and Arroyo Mocho.

(6) Archaeological and Historical Resources Policies

- (a) Whenever there is evidence of an archaeological site within a proposed project area, an archaeological survey by qualified professionals shall be required as a part of the environmental assessment process.
- (b) If an archaeological site is discovered during construction, all work in the immediate vicinity shall be suspended pending site investigation by qualified professionals. If, in the opinion of a qualified professional the site will yield new information or important verification of previous findings; the sites shall not be destroyed.
- (c) Archaeological sites shall be preserved for research and educational programs. Where possible, such sites shall be made accessible to the public as part of the open space/recreation/educational system.
- (d) The City shall make efforts to obtain State and /or national register status for the vineyards, wineries and the seven additional historical sites which are

pending a decision by the Director of the State Department of Parks and Recreation.

- (e) The City shall encourage, and when possible, require the preservation of places, sites, areas, building, structures, and works of man which have cultural, archaeological, or historical significance or other special distinction to the community.
- (f) The City shall make architectural design requirements conditions of approval for use permits for relocating or renovating of historical buildings. Similar restrictions shall be applied to the modification or construction of structures adjacent to historical buildings.
- (g) The City shall encourage and assist private groups and organizations in preserving and enhancing historic resources for recreational, cultural, and educational purposes.

(7) Visual Resources Policies

- (a) The City shall allow no structural development in hillside areas involving skylines, ridgelines, or silhouettes.
- (b) The City shall maintain in open space that portion of the hills which are seen from the freeway, I-580, and which are within the I-580 Scenic Corridor as defined in the Scenic Element; any development within the Scenic Corridor is subject to conditions set forth in the Scenic Element.
(Reso. No. 167-83)
- (c) The City shall permit no intensive development of the hills. Development including roads, buildings and other structural or land coverage, shall be located, sited and designed to fit and be subordinate to the natural landforms. Under no circumstances shall development create uniform, geometrically terraced building sites which are contrary to the natural landforms, and which detract, obscure or negatively effect the visual quality of the landforms.

- (d) The City shall permit no structure or appurtenance to exceed the height of the tree canopy in woodland areas.
- (e) The intensity of land use in woodland areas shall reflect the density of the trees so as to perpetuate the woodland character.
- (f) Development in woodland, grassland, or grassland/woodland areas will employ colors and materials which are in harmony with, rather than contrast with the vegetation cover of the site. (Reso. No. 167-83)
- (g) The City shall maintain an area of non-urbanized land surrounding Livermore to serve as a buffer between communities. Uses which are considered compatible with this area are agriculture, grazing, open space, recreation and reclaimed sand/gravel extraction.
- (h) Open space shall be used to protect and enhance local community character and identity, and to guide the physical shape and direction of urban growth to preserve the rural characteristics of the area.
- (i) Open space shall be used as a buffer between incompatible land uses within urban or essentially undeveloped areas.
- (j) The City shall protect and enhance public views within and from established scenic corridors, including the arroyos and development shall not be allowed to obscure, detract from, or negatively effect the quality of these views.
- (k) The City shall permit no development to wholly obstruct or significantly detract from views of any scenic area as viewed from a scenic corridor. (See the Scenic Element). Reso. No. 167-83
- (l) The City shall permit no development, with the exception of agricultural uses, on grassland in upland areas unless such development will be screened effectively from existing or proposed public viewing areas or scenic corridors.

- (m) The limits of the various scenic corridors in the Planning Area shall be determined according to the Scenic Element. (Reso. No. 167-83)
- (n) Site planning, architectural, and landscape architectural design review shall be required so that development will be attractive from the highway and roads, and a harmonious relationship will exist among the various elements of proposed and existing developments and the visual qualities of the scenic corridor. Careful consideration shall be given to natural land contours. (Reso. No. 167-83)
- (o) The City shall develop a coordinated system of "street furniture". This includes fire hydrants, litter containers, newspaper vending machines, paving patterns, planters, signposts, traffic signals, benches, and light standards.
- (p) The City shall develop a Community Design Element which would identify standards and principles governing the visual design of neighborhood, commercial and industrial development and redevelopment. This element shall provide policies to enhance and protect the appearance of the City and shall be incorporated as part of specific plans.
- (q) The size, height, number and type of on-premise signs allowed shall be the minimum necessary for identification. Their design, materials, color, texture and/or location shall relate to the type of activity to which they pertain and be compatible with the visual character of the area surrounding them.
- (r) The City shall not permit off-premises outdoor advertising, except for an approved informational or directional panel, i.e., signs used for advance notice to motorists or to identify groups of uses.
- (s) Utility distribution lines shall be placed underground in new developments and upon redevelopment.

- (t) Existing overhead utilities shall be placed underground through a phased program of conversion.
- (u) Off-street parking areas shall be screened preferable by natural vegetation in conjunction with low earth berms.
- (v) Existing land uses or those of public necessity which are visually offensive shall be screened from view from the highway and roads, or inconspicuously located if within a scenic corridor.
(Reso. No. 167-83)
- (w) Trees, shrubs, and other landscaping shall be planted along scenic roads in accordance with a landscape plan approved by the City.
- (x) Existing healthy specimen trees and shrubs on private property shall be preserved.
- (y) The City shall encourage the County to concern its scenic route system development with access to recreational areas and areas of outstanding scenic value.
- (z) Scenic corridor development shall include provision for cycling, hiking, and riding trails within or adjacent to street rights-of-way where feasible.
- (aa) To protect visual quality at entrances along the freeway, commercial development, if allowed, shall be limited to the immediate area of the interchange.

(8) Seismic Safety Policies

- (a) Urban development within earthquake fault zones and areas of high landslide susceptibility (see Landslides Map No. II-4) shall be carefully regulated. Open space shall be considered the most desirable use for these areas.
- (b) Major utility lines such as gas lines, water supply mains, fire protection mains, electric transmission lines, sewer collection and transmission systems, and communication cables shall be carefully planned where they cross a fault. They shall

cross at right angles, or nearly so, be accessible for rapid repair, and be provided with safety features such as automatic shutoff valves, switches and expansion joints. Other equipment shall be provided to ensure minimal adverse impact on adjacent and surrounding areas and to facilitate restoration of service in the event of fault displacement.

- (c) No structure proposed for human occupancy shall be placed across the trace of any active fault within the Planning Area. The Greenville, Las Positas faults shall be assumed active and Livermore fault shall be assumed potentially active unless and until proven otherwise. Urban development within 600 feet of a fault, shall be approved only after an appropriate geologic investigation and submission of a report by an engineering geologist registered in the State of California proves development to be safe and demonstrates the hazard of surface displacement is low. (Reso. No. 307-80)
- (d) The City shall require geologic and engineering studies for any "critical" or "essential" structure located outside of the areas covered by Policy No. (c) as they may be effected by ground shaking, liquification subsidence, etc. "Critical" and "essential" structures are defined as structures of three stories or more, schools, and hospitals, fire and police stations and other structures designed for large concentrations of people. (Reso. No. 307-80)
- (e) A technically qualified person, defined as a geologist registered in the State of California should be retained by the City to evaluate the geologic reports required under Policy Nos. (c) and (d) and advise the City regarding them.

(9) One Hundred-Year Floodplain Policies

- (a) The City shall allow lands which are prone to flooding, as determined by the Federal Flood Insurance Administration, to develop in accordance with the General Plan if mitigation measures will assure that the

proposed development will not create any of the following:

- (i) danger to life and property due to increased flood heights or velocities caused by excavation, fill, roads and intended use;
 - (ii) problem of access to the property for emergency vehicles in times of flood;
 - (iii) safety hazard due to the expected heights, velocity, duration, rate of rise and sediment transport of the flood waters expected at the site;
 - (iv) problem of excessive costs in providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, and streets and bridges.
- (b) The City shall permit development in a flood-prone area when it is demonstrated that such development will not:
- (i) interfere with the existing waterflow capacity of the floodway or substantially increase the erosion, siltation or chemical nutrients;
 - (ii) contribute to the deterioration of any watercourse or the quality of water in any body of water;
 - (iii) require storage of material, construction of any substantial grading or placement of fill.
- (c) Within flood prone areas only uses which have low flood damage potential and do not threaten other lands during times of flood shall be permitted.
- (d) The City shall require service facilities within a floodprone area, such as electrical and heating equipment to be floodproofed.

- (e) The City shall require all water systems, including individual wells located in this area, whether public or private, to be floodproofed to a point at or above the flood protection elevation.

(10) Wildfire Hazard Policies

- (a) The City shall encourage the County to adopt the recommendations of the California Division of Forestry contained in the report, Recommendations to Solve California's Wildland Fire Problem, 1972 and those of the County Supervisor's Association of California in Be Fire Safe, 1965.
- (b) Areas shall not be developed which are subject to fire hazard or for which elimination of such hazards would require: (1) major modification of existing land forms; (2) significant removal of, or potential damage to, established trees and other vegetation; and (3) exposure of slopes which cannot be suitable revegetated.
- (c) The City shall request that the Division of Forestry map the Planning Area using the Division's A Fire Hazard Severity Classification System for California's Wildlands or a modified system where areas of extreme fire hazard would encompass: (1) those wildlands (all slope classes) which have "high" frequency rate of critical fire weather (fire weather severity frequency Class 111) and "medium" of heavy fuel loading; plus (2) those areas which have a medium frequency rate of critical fire weather (fire weather severity frequency Class 11) and "heavy" fuel loading.
- d. The City shall establish programs which provide for the transfer of residential density from areas of potential environmental sensitivity to locations not subject to such constraints in order to further the goals of the Environmental Resources Management Element, or to provide for other suitable public purposes such as the preservation of open space, protection of resources, or providing for other similar public sites or facilities.

D. LAND USE GOALS AND POLICIES

1. Goals

- a. It is a goal of the City that future land use patterns reflect the community's overriding concern for the protection and enhancement of the environmental setting and the protection of the health, safety and general welfare of present and future residents.
- b. It is a goal of the City that new development be located so as to create a consolidated pattern of urbanization , particularly with respect to minimizing the cost of urban services and achieving maximum public and private benefits from existing services and facilities.
- c. It is a goal of the City that development within the Planning Area reflects the highest possible level of community design and image.

2. General Policies

- a. A filling in of neighborhoods where the development pattern is now fragmented.
- b. Only modest expansion, in the short-range of neighborhoods where new development has been a contiguous expansion of existing development.
- c. Encouraging further contiguous development to fill in locations within existing neighborhoods.
- d. The preparation and adoption of specific plans for "Planning Units" or neighborhoods which will include a schedule for extension of City services and facilities.
- e. Development shall conform to adopted specific plans.
- f. Except where special conditions warrant, the City shall allow development only on those properties immediately adjacent to established urban areas.
- g. Planned open space within and adjacent to the City shall be preserved to implement the trailways system, preserve scenic and historical resources, provide common areas within higher density developments, and promote the public health, safety and welfare. Among other techniques, density rights transfer shall be given high priority for study and implementation. The use of development rights transfer may enhance the ability of the City to

preserve resources and minimize the inequitable effects of more traditional land use devices. Specific studies shall be undertaken looking toward the creation of a comprehensive and integrated system of development rights transfer.

(1) Residential Land Use Policies

- (a) Residential expansion shall be limited to those areas identified as being highly suitable according to the criteria and policies of the Environmental Resources Management Element.
- (b) The City shall encourage the use of the Planned Unit Development concept where possible to decrease construction costs, provide open space, increase the variety of housing types and provide integrated low and moderate income housing.
- (c) Street rights-of-way in new subdivisions shall not exceed 25 percent of the total acreage involved in the proposed development, exclusive of planned open space areas.
- (d) The City maintains a file in the Planning Department of vacant residential acreage which provides an inventory of land suitable for single family and multiple residential development. There are also maps indicating current zoning as well as public facilities and services to these sites. In addition, sites which could be made available through changes in zoning are identified on the General Plan map.
(Reso. No. 180-82, 8-9-82)
- (e) The City shall utilize "density transfer" to achieve a "general public benefit", where such transfer involves a residential "receiving site", has a final density of the receiving site within the designated range of density specified for the site, and where any density transfer does not exceed the total "public facility" capacity serving the receiving site.
- (f) New residential land use designations or the intensification of existing residential land use designations shall be prohibited within the Airport Protection

Area as shown on Exhibit A. (CC Reso. 90-91)

(2) Commercial Land Use Policies

- (a) The downtown shall serve as the dominant commercial area and as the major retail shopping area within the period of the plan.
- (b) Downtown shopping shall be supplemented by neighborhood shopping centers, consisting of retail convenience and personal service uses. These centers shall be located as small clusters of establishments serving a neighborhood trade area of 5,000 to 10,000 persons. Centers should be located on one corner of an intersection and located so that the trade area residents are within relatively easy walking distance. Neighborhood centers should be more than one mile apart so as not to overlap with adjacent trade areas.
- (c) Highway commercial development adjacent to Interstate 580 shall be limited.
- (d) (Deleted, Reso. No., 208-79, 7/23/79)
- (e) The City shall prohibit strip commercial development whether retail, office, or service commercial, to avoid the following problems:
 - (i) traffic congestion resulting from inadequately controlled access;
 - (ii) high public costs of widening and improving major streets in order to accommodate traffic movement;
 - (iii) difficulty in containment of such areas;
 - (iv) poor aesthetic character where site planning, architectural style, landscaping and signing are inadequate;
 - (v) the spread of blight into adjacent neighborhoods.
- (f) The City shall condition proposals for commercial development to assure that the

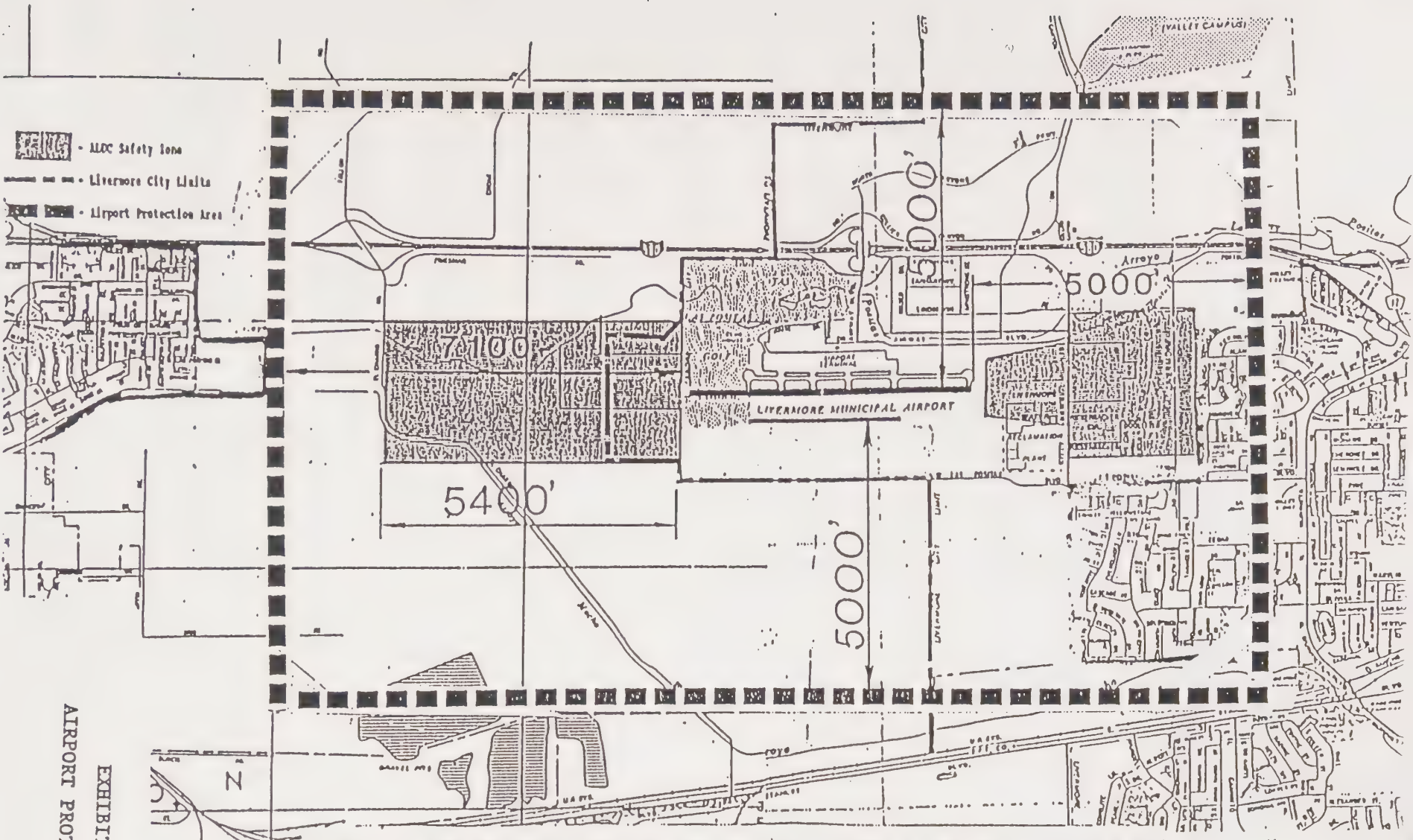


EXHIBIT "A"
AIRPORT PROTECTION AREA

AIRPORT PROTECTION AREA

City of Livermore, California

internal design of each site is appropriate for such use. Street improvements and utilities shall be provided during initial phases of development, and design proposals shall demonstrate excellence in appearance, function and relationship with uses existing or proposed on adjacent properties.

- (g) Where possible, neighborhood and community commercial uses shall be integrated with public uses in similar areas as comprehensively designed service centers. Public facilities, day care centers, multi-purpose meeting places, health care facilities, housing for the elderly, transportation centers, and schools.

(3) Industrial Land Use Policies

In support of the community's goal to reduce commuting and to improve the community's economic base, the City shall:

- (a) reserve sufficient space for industry, recognizing industry's greater land requirements due to new methods of operation;
- (b) designate a variety of locations to avoid creation of a monopoly in the industrial land market;
- (c) apply regulations which reserve large tracts for exclusive industrial use to encourage development of an industrial "community" and prevent encroachment by incompatible uses;
- (d) assign high priority for the extension of urban services particularly those where multiple modes of transportation are available;
- (e) evaluate proposed industrial development in terms of its impact on local employment; and
- (f) make industrial development subject to design principles and performance standards which support environmental resources management policies.

(4) Public and Semi-Public Uses Policies

Schools

- (a) Elementary schools shall be located centrally to the student populations they will serve. Sites shall serve areas bounded by major streets so that children do not have to cross such streets to get to school.
- (b) Elementary school sites shall be located away from major streets to avoid vehicular noise and traffic hazards which interfere with the educational process.
- (c) Elementary schools shall be located on sites which permit flexibility in building construction, classroom arrangement and use to avoid premature obsolescence in plant facility operation and maintenance.
- (d) Wherever possible, school sites should be integrated with recreation parks and community recreation/non-motorized transit corridors to permit recreational experiences as part of the educational process and to allow pedestrian and bicycle access.
- (e) Intermediate and high schools should be located centrally to the student populations they will serve. Sites shall have access to collector or major streets to permit access by pedestrians, bicycles and public transit with a minimal impact on surrounding residential areas.
- (f) The City shall protect the public investment in the junior college site by policies and land use proposals which will assure compatible use of adjacent properties.

Airport Land Use Planning Area

- (a) To protect the Municipal Airport from encroachment by incompatible uses the City shall encourage development of property within the immediate vicinity of the airport for light industrial and transportation uses to the extent that noise standards and flight clearance require-

ments are maintained, and environmental impacts are adequately mitigated.

- (b) Development within Planning Unit 12 shall be subject to the ILS approach surface height clearance standards and shall be subject to review by the Airport Land Use Commission.
- (c) To assure the most positive control over development within the "off-airport" flight approach areas, the City shall pursue the feasibility of acquiring urban development rights or fee title to property within these approach areas.

Government Offices

- (a) The City shall pursue development of the Pacific Avenue So. Livermore Avenue Civic Center site to support the concept of a centralized public service and administrative center.
- (b) The City shall give the high priority to establishing a Low-Income Service Center in accordance with the Housing Assistance Plan. The site shall be centrally located in relation to other government office space and large enough to permit future expansion.

Other Public Land Policies

- (a) The City shall not dispose of publicly-owned lands or commit undeveloped publicly-owned lands to long term use unless such actions are consistent with policies and proposals of the General Plan.
- (b) Public lands and buildings which are no longer used or suitable for the functions for which they were originally acquired shall not be considered "surplus" without careful consideration first being given to their potential for other public use. The availability of public lands shall be viewed as an asset for the long-term benefit of the community which shall not be sacrificed for short-term gain. Leasing shall be considered as an alternative to land sales where their disposition is consistent with the General Plan.

- (c) In connection with Policy No. (b) above, the City shall investigate purchasing or leasing surplus State or Federal lands for local use prior to giving up its right-of-first-refusal. In any event, the City shall study the potential of such lands for non-City local use and advise the appropriate local body of such potential.

E. TRANSPORTATION - CIRCULATION GOALS AND POLICIES

REFER TO THE CIRCULATION ELEMENT (Reso. #135-89, February 27, 1989).

F. PUBLIC FACILITIES AND SERVICES

1. Goals

- a. In assuming management responsibilities for all urbanization occurring in the Livermore Planning Area, it is the goal of the City to provide the most efficient and financially sound system of urban services commensurate with the highest standards required to protect the health, safety and general welfare of all persons living and working in the Planning Area, both now and in the future.
- b. It is the goal of the City to provide urban services through a phased program, ensuring the orderly implementation of policies and proposals of the General Plan, including the annexation of areas to be served and provisions for meeting the cost of such services.
- c. It is the goal of the City that the expansion, maintenance and operation of central sewer and water systems serving all urban development within the Planning Area shall be under the jurisdiction of the City of Livermore.
- d. It is the goal of the City to ensure that new residential growth shall not constitute a burden on the City in the form of increased taxes or costs to provide facilities and services.
- e. It is the goal of the City that new residential, commercial and industrial development pay its fair share of new public facilities, equipment, and services necessary to serve the development.

To implement above Goal "E", it is the City's policy that:

1. New development will provide the necessary monies (or equivalent facilities) to reflect the project's share of new or expanded buildings, facilities and services required to serve the development.
2. The City will coordinate with other public agencies to identify those public facilities and services these agencies provide to new development in Livermore. As appropriate, the City will ensure "fair share" fees (or other equivalents) are assessed against new development to fund such facilities consistent with each agency's policies and state law.
3. New development will contribute its fair financial share to develop and maintain an adequate level of public services in the following areas:
 - a. Sewerage transmission, treatment and export/disposal facilities.
 - b. Water development, treatment, storage, distribution, and conservation facilities.
 - c. Storm drainage and flood control facilities.
 - d. Solid waste facilities including recycling and source reduction facilities and programs.
 - e. Street, highway, pedestrian, bicycle, and related transportation facilities.
 - f. Public transportation facilities, equipment and programs.
 - g. Public safety facilities and equipment including police administration building, fire stations, vehicles and equipment.
 - h. Public Works Maintenance facilities, equipment and vehicles.
 - i. Library facilities and equipment.
 - j. General government administration buildings and equipment.

- k. Parks, recreational and cultural facilities and equipment including administration and support buildings.
- l. Educational facilities and equipment including administration and support buildings.
- m. Public health facilities and equipment.

To implement the above policies the City will:

- 1. Conduct research and studies to support the necessary fair share financial contributions of new development necessary to implement the policies.
- 2. Adopt ordinances and/or policy procedures establishing the requirement and techniques for collecting financial contributions from new development.
- 3. Establish the accounting procedures necessary to support the program's requirements and objectives.
- 4. Modify, as necessary, the City's Capital Improvement Program to specifically identify the facilities/equipment necessary to respond to projected new development.
- 5. Coordinate and assist other government agencies (e.g. Park and School Districts) in identifying future physical growth and the public facilities necessary to support such growth.
- 6. Investigate techniques and alternative funding sources for exempting selected private development projects that further significant public goals, (e.g. lower cost housing, quasi-public uses).
- 7. Periodically, but at least every five years, review and, as necessary, revise public facility programs to respond to new land use policies and development projects, changed facility needs, and changed facility/equipment cost estimates.
- 8. As part of General Plan Land Use Amendment considerations, identify the general type of additional public facilities necessary to support the proposed land use.

9. Develop necessary procedures and programs to ensure public facility impact fees are used to provide the necessary facility enhancements in a timely and economical manner. (CC Reso. 92-192, Dated: 6/92)

2. General Facilities Policy

It is the policy of the City that phased programs for the systematic provision of all public facilities and services in support of policies and proposals of the General Plan, shall be in accordance with short - medium - and long-range financial plans. The Financial Plan shall consist of the capital improvements program, the public services program and the revenue program.

a. Domestic Water Systems

- (1) The City shall coordinate the extension of domestic water systems, both public and private, with the phased program for the extension of all other urban services to ensure the most effective management controls over urban growth in support of General Plan policies and proposals.
- (2) Urban development shall be prohibited unless the City can find:
 - (a) That there exists an adequate domestic water supply. This shall be based on an approximate 1150 gallons per day per single family residence peak water demand.
 - (b) That development will not result in a reduction of water quality below those standards set forth in laws and regulations relating to Domestic Water Supplies Quality and Monitoring as set forth in the California Health and Safety Code and the California Administration Code.

b. Educational Facilities

To help assure quality education, adequate classroom school space, and safe school access, the City shall closely coordinate its urban management function with the school facility planning function of the Livermore Valley Unified School District. More specifically, the City shall:

- (1) Through the referral process, afford the School District the opportunity to review proposed residential developments and make recommendations based on school-child projections, existing school capacity, access, traffic hazards, need for additional facilities and other such school planning factors as required to assist the City in acting on the proposal.
- (2) Apprise the School District of the order of priority for development and of all proposed public and private plans to afford them the opportunity to acquire school sites ahead of land development.
- (3) Encourage residential land developers to provide school facilities in conjunction with their development so that adequate classroom space is available when the new homes are occupied and assist the School District in finding other means of financing.
- (4) Consider the comments of the School District concerning availability of educational facilities prior to the approval of new residential development.

c. Sewage Treatment

- (1) Urban growth shall occur only where sewage is treated prior to land disposal. Septic tanks shall be allowed only in agricultural zones when approved by the Alameda County Health Department.
- (2) Urban development shall occur only if there exists an adequate sewer treatment capacity.
- (3) Municipal Sewer System Capacity

Short-Range Allocation

In support of the City's other General Plan policies concerning the ambient air quality problem and the effects of the "Critical Air Basin" and "Air Quality Maintenance Area" designations assigned by agencies of the State government as it limits funding for expansion of the City's Water Reclamation Plant:

- (a) The present design capacity of the water reclamation plant (sewer) is 5.0 mgd. As of March 1, 1979, the remaining

uncommitted capacity is approximately 400,000 gallons.

The City desires to implement those policies and proposals which are intended to avoid further degradation of air quality and which will help mitigate the adverse effects of that air pollution which currently exists. To this end:

- (b) The City shall seek a reasonable balance between the needs of the community for housing, commerce, industry and public and private institutional facilities and services by allocating the remaining (sewage treatment) capacity not previously allocated on a yearly basis, except for residential development which shall be allocated on a periodic basis as part of the Residential Development Policy/Housing Plan process. Prior to each year's allocations the Public Works Director shall estimate the remaining capacity of the plant. The Council shall set a number of gallons to be used and set appropriate quotas for each type of development. (Reso. No. 261-87)

In addition to the overriding concern for environmental resource management, the above policies reflect the continuing needs of the community for housing variety and non-residential land use. In allocating sewer connections for low income housing, special attention is to be given to coordinating the allocation with the Housing Assistance Plan section of the City's Community Development Block Grant application to the U.S. Department of Housing and Urban Development. The allocation of connections for non-residential land use recognizes the importance of improvement to vital public services, such as education and health-related services, new industry and commerce to improve the economic base of the community, and of new or expanded business and professional services which are in demand by the residents.

If development proposals are submitted by the City which exhibit exceptional merit with respect to policies and proposals of the General Plan and any applicable Specific Plan, but which, if approved, would exceed the capacity of the City's sewer treatment plant, the City recognizes the need for flexibility in considering alternative approaches to financing needed sewer plan expansion. In this regard:

- (c) The City shall weigh the merits of accepting private funds or creating a sewer improvement district as a means of financing sewer plan expansion which will be reasonably consistent with the short-range population projection of the General Plan.

Policy No. (c) is not in any way intended to suggest or encourage the construction and management of additional sewer plants within the Livermore Planning Area and the City's appropriate sphere of influence by any entity other than the City of Livermore.

Medium-and Long-Range Allocation

- (a) The City shall seek a reasonable balance among the needs of the community for housing, commerce, industry, and public and private institutional facilities and services. The City shall allocate any capacity added as a result of expansion of the Water Reclamation Plant as follows: not less than 50 percent of the expanded capacity shall be allocated to non-residential uses, not less than 10 percent shall be allocated to low income housing, and the remainder may be utilized for other housing. (Reso. 313-79, 10-29-79).

In keeping with the City's urban expansion policy of giving priority to filling in lands within the City that have been bypassed by earlier development:

- (b) When the capacity of the Water Reclamation Plant has been increased beyond the present five mgd, first priority in allocating such added capacity shall be for uses proposed on undeveloped land within the existing urban pattern which was previously bypassed for development.

The purpose of Policy No. (b) is to achieve a pattern of orderly development which will minimize the adverse impact of growth on the environmental resources of the area and permit the most efficient and economical system of urban services. To further achieve this end:

- (c) The City shall reserve sufficient Water Reclamation Plant treatment capacity to

accommodate full development of such bypassed lands that presently are within the existing urban pattern. The reserve shall be determined by the City staff with the approval of the City Council and shall be based upon the approximate discharge requirements of the various development proposals of the General Plan. A review of the unused reserve shall be made annually to re-establish the capacity that should be retained as a reserve during the following year. Allocation of capacity to bypassed land within the unincorporated area shall be subject to annexation of that land to the City.

- (d) The City shall further limit the allocation of that portion of the added capacity that is in addition to the reserve established under Policy No. (c) to those development proposals which are consistent with all other policies and proposals of the General Plan and which are within the service area of the sewer trunkline collection system as determined by the City Director of Public Works and approved by the City Council.

Despite the uncertainties imposed by air quality and sewer plant expansion problems, the City shall continue to seek reasonable solutions to these problems. The City recognizes that the extent to which it can fulfill the needs of existing and future residents depends in part on a dynamic and successful program to improve existing conditions of housing; commerce, industry and public and private services. In this regard:

- (e) Arbitrary restriction upon internal or external growth of the community, however it may be measured, shall not be a goal or objective of the General Plan. Rather, the City recognizes that it has an overriding responsibility to promulgate policies and programs which will result in the management of growth to best serve the health, safety and general welfare of its residents. Neither growth for its own sake, nor restriction upon growth unrelated to this overriding responsibility, is included in the meaning of this policy.

d. Fire Protection

- (1) The City shall approve community design and structure that will assist in the reduction of exposure to fire hazard and permit the best utilization of fire protection facilities and services.
- (2) The City shall provide fire fighting equipment, facilities and manpower sufficient to assure (1) quick response to all calls by the "first due" company; (2) availability of additional companies for serious fires in high value areas; (3) capability for handling simultaneous fires; and (4) a water system capable of sustaining prerequisite fire flow at all times.
- (3) The City shall seek reduction in the demand for public fire protection services through emphasis on fire prevention education and on fire protection measures for private structures.

e. Police Protection

The City shall approve community design and structure that will assist in the reduction of crime and facilitate police protection and services.

f. Community Health Services

The City shall support the maintenance of a General Hospital within the City.

g. Municipal Library

The City shall support a municipal library system and the extension of the library services to serve the residents of the planning area.

h. Recreation Facilities

- (1) Deleted. See Supplemental Document, "Public Facilities & Services Element re Park 7 Recreation Facilities.
- (2) Major Recreation Areas: Major recreation areas to include District, Regional Parks, and Special Use parks shall be provided as indicated on the General Plan diagram.

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PART IV

PROPOSALS OF THE GENERAL PLAN



PART IV

PROPOSALS

A. THE ENVIRONMENTAL RESOURCES MANAGEMENT ELEMENT

The Environmental Resources Management Element (ERME) brings together four mandatory and one permissive element of the General Plan, as now prescribed by State Law, into one single functional element of the Plan. The five elements are: Open Space Element, Conservation Element, Recreation Element (permissive), Seismic Safety Element, and Safety Element. The recently completed Noise and Scenic Highway Elements, though not published as a part of this document, are also considered components of the ERME.

The proposals of the five elements included in the ERME are presented according to the following classifications: Managed Production of Resources, Public Health and Safety, Preservation of Natural and Human Resources, and outdoor Recreation. This classification system was chosen because of its convenience in showing the interrelationships of the elements of the ERME and because it is used in State law (Section 65560) to define open space uses. Table IV-1 illustrates these relationships.

Many of the ERME proposals intended to carry out the policies presented in Part III are depicted on the General Plan diagram. However, the explanation of these and other proposals is presented here so that they may be better understood and interpreted both with respect to the list of policies and to requirements of State law.

1. Proposals for Managed Resource Production

a. Geologic Resources

Areas for the extraction of sand and gravel are shown as a natural resource within an agricultural area on the General Plan diagram. They include the major extraction sites currently in operation west of the City. Showing sand and gravel extraction in this way reflects the general policy of assigning higher priority to agricultural use compared to sand and gravel extraction where prime agricultural lands (Class I and II soils) are involved.

TABLE IV-1

MATRIX ILLUSTRATING THE RELATIONSHIP BETWEEN
COMPONENT ELEMENTS OF THE ERME AND THE CLASSIFICATION SYSTEM

<u>Mandatory & Permissive Elements of the General Plan included in the ERME</u>	<u>Managed Resource Prod.</u>	<u>Preservation of Natural & Human Resources</u>	<u>Public Health & Safety</u>	<u>Outdoor Recrea- tion</u>
Conservation Element	X	X	X	X
Open Space	X	X	X	X
Scenic Highways Element		X		X
Seismic Safety Element		X	X	
Safety Element			X	
Noise Element			X	
Recreation Element (permissive)		X		X

Note: "X" indicates which category descriptions fulfill requirements of State law for the mandatory elements of the General Plan included under the ERME.

b. Intensive Agriculture

To support policies on agricultural resources, all existing vineyards are designated on the General Plan diagram as intensive agriculture. This long-range proposal for the protection of vineyards from urban encroachment is identified as being of State, Regional, County and local significance. In addition to their economic importance, the vineyards have been part of the Valley's identity for over ninety years.

The agricultural resource policies and Plan designations also reflect the community's interest in encouraging expansion of viticulture in the Planning Area. These long-term commitments supporting local vintners are intended not only to strengthen the local wine producing economy and possibly tourism, but more importantly, to protect the environmental setting and the historical identity of the community.

c. General Agriculture

To support soils and agricultural resource policies most lands shown for retention in general agriculture on the General Plan diagram are Class I and II soils as well as lands which qualify for rating as Class I and Class II in the Soil Conservation Service's land use capability classification. The general agriculture designation also is given to most land which qualifies for rating 80 through 100 in the Storie Index Rating as well as to non-prime agricultural lands that are now in agricultural use other than vineyards.

d. Recharge Areas

The policies on water resources require preservation of recharge areas which are important interchange points between surface water and aquifers. These recharge areas are the gravel pits, the stream channel deposits (QSC on the Cenozic Deposits Map No. II-11) and the riverwash (#60-RH on the Soil Types Map No. II-8). The last two categories are identical in character although they are labeled differently on the two maps. These areas consist mainly of loose well-sorted sand, gravel and boulders; they have a Unified Soil Classification of GP and a permeability of 10 feet/day (75 gallons/day). Recharge areas occur along Arroyo del Valle, Arroyo Mocho, Arroyo Seco, Arroyo Las Positas and other tributary streams. Recharge

areas are of State, Regional and local significance; therefore, effective control is extremely important. Regulation of recharge areas should be directed toward preventing: (1) construction of impervious surfaces over the recharge area; (2) pollution of the recharge area by development; and (3) pollution or clogging of the recharge area during sand and gravel extraction operations.

2. Proposals for Public Health and Safety

Of the many ERME policies and proposals reflected in the General Plan diagram some of the most important (though least obvious from a graphics standpoint) are those related to health and safety. In fact, many simply cannot be presented graphically on the Plan diagram. Therefore, for purposes of interpretation, and Plan implementation, reliance on the Computerized Planning Information System becomes all important. This includes both the 36,000 grid cell inventory of physical conditions in the 139-square mile Planning Area and the computer interpretive maps.

The Hazards-Suitability Map No. III-5 provides a composite of most factors which are potentially hazardous or stressful to life, health and property. The relative severity of hazards for a given area is shown by increasingly darker tones. Areas considered undesirable for urban development because of one or more conditions are labelled #5, #6, #7, #8 and (R). This map is a composite of other computerized source data maps which show geology, faults, slope, floodplains and areas of potential landslide, erosion, wildfire, and high shrink-swell.

It must be emphasized that the mapped characteristics discussed below are shown in their general location based on a variety of source data and a cell size 100 meters square. Because of this and because of incompleteness and lack of detail in the original source data, the information system provides only a broad framework for evaluating suitability. A more specific level of detail will be required in evaluating development proposals.

a. Floodplain

A floodplain is the area expected to be covered by floodwaters as a result of a 100-year storm. The general area is shown on Map No. II-7. The 100-year storm is defined as one having a 1 percent chance of occurrence in any given year.

All levels of government consider 100-year flood-plains as hazardous areas of critical concern. The City shall prepare an ordinance to regulate development where urban uses coincide with the location of floodprone areas shown in Figure II-3.

b. Watershed Lands

The watershed lands bordering Lake Del Valle and San Antonio Reservoir serve multiple functions, including recreation, wildlife habitat, water provision, flood protection and grazing. The General Plan diagram treats these watershed lands as resource and hazards areas which are environmentally sensitive to urbanization. Similarly, at the Regional and State levels these watershed lands are considered resource areas of critical concern and environmentally sensitive to urbanization.

Public lands and watershed lands designated for recreation should be managed in accordance with a program which will achieve objectives stated in the Master Plan for the East Bay Regional Park District. Privately-owned upper-watershed lands should be managed in accordance with plans developed jointly by landowners and the Soil Conservation Service. Minimally, these plans should provide for runoff control, fire protection, and avoidance of erosion and downstream sedimentation.

c. Wildfire Hazard

Areas of high fire hazard also were incorporated into the composite Hazards-Suitability Map No. III-5. As do policies at the Regional and State levels, the General Plan policies and diagram consider these areas environmentally sensitive to urbanization and of critical concern.

One particular area which is subject to high or extreme fire hazard is the rugged, steep, mountainous terrain south of Livermore. Any rural or low density development there would be in critical danger in case of fire due to very steep slopes and the distribution and combination of plant communities in that area. In addition, the conservation policies would restrict the use of protective measures that would reduce the fire danger. Such areas also coincide with other "open space" categories, such as unstable soil areas, grazing lands, areas of landslide susceptibility, public and private recreation, wildlife habitat and scenic value. In combination, they provide clear justifi-

cation for restricting development in the areas as shown.

d. Unstable Soil Areas

Soil factors of particular concern are "severe" and "very severe" erosion hazards on Map No. III-2 and "high" shrink-swell on Map No. III-3. Both have been incorporated into the composite Hazards-Suitability Map No. III-5.

"Severe" and "very severe" erosion hazards also are of critical concern at State and Regional levels. Construction shall be prohibited in these areas unless it can be clearly demonstrated that the project will not contribute to increased erosion, sedimentation or runoff. "High" shrink-swell is of critical concern at the State level and is considered a hazardous condition at the local and regional levels. In areas of "high" shrink-swell, special measures must be undertaken in site grading, foundation design and construction to alleviate potential movements.

Areas exhibiting both "very severe" erosion and "high" shrink-swell characteristics are considered as least favorable for development.

e. Slope

Areas with slopes 25% or more are shown on Map No. III-1 and reflected in the hazards-Suitability Map No. III-5.

Development on these slopes should be conditioned carefully with respect to grading, cut and fills, runoff, erosion and sedimentation, and maintenance of vegetation. Hillside-development regulations, currently being reviewed, should reflect these environmental concerns.

f. Geologic Hazards

Areas of high geologic hazard include faults and landslides and have been incorporated into the composite Hazards-Suitability Map No. III-5. Where urban uses are within earthquake fault zones, the precise location where development will be allowed in relation to such areas will be conditioned in accordance with ERME policies of the General Plan relating to faults. Therefore, all fault traces and their potential activity need to be delineated to their maximum practical extent. When traces are

delineated, either conservative setbacks for development can be adopted or detailed fault shear zone studies can be done to define building setback requirements. In keeping with the ERME policies on Seismic Safety, the ultimate setback required will be determined as geologic studies are made as a condition of processing development proposals.

The City should develop and adopt regulations similar to the "Model Ordinance for Cities and Counties to implement the Alquist-Priolo Act" developed by the California Division of Mines and Geology. (Reso. #307-80).

Areas of high relative landslide susceptibility and/or high relative landslide abundance generally are considered unsuitable for urban development. They are defined as: (1) 80% and above incidence on the Isopleth Slide Map No. II-5; (2) landslide 200-500' and landslide 500' on the Landslide Map No. II-4; and (3) label numbers 13-19 (or sub-category 11-17) on the Slope Stability Map developed by the Pacific Gas and Electric Company for the Montezuma Units 1 and 2 Transmission System Study.

Special precautions must be undertaken in areas of moderate landslide susceptibility defined as: (1) colluvial deposits and small alluvial fan deposits, and alluvial terrace deposits on the Landslide Map No. II-4; and (2) label number 10-12 (or sub-category 8-10) on the Slope Stability Map developed by Pacific Gas and Electric Company for the Montezuma Units 1 and 2 Transmission System Study.

The areas shown are not all inclusive. Future studies required as a result of development proposals may add to this inventory

3. Proposal for the Preservation of Natural and Human Resources

a. Natural Areas

The California Natural Areas Coordinating Council (CNACC) has prepared an "Inventory of California Natural Areas" which includes two general categories: (1) Natural Areas that are unique or are of particular scientific or educational interest (including habitats of rare or endangered plant and animal species, relict or disjunct populations, paleontological sites, noteworthy geological

features and areas of historical interest); and (2) Natural Areas representative of the various biotic communities found in the State.

Three Natural Areas in the planning Area have been designated by the CNACC. They are Lake del Valle, Cedar Mountain and Corral Hollow (also known as the Tesla Area).

The National Park Service (NPS), under the authority of the Historic Sites Act (Public Law 74-292, August 27, 1935) has also identified Corral Hollow as a potential natural area.

To support City policy on preservation of such resources and to support these State and Federal plans, the General Plan diagram reflects the preservation of these Natural Areas. Such designations, however, do not automatically guarantee their protection. Therefore, it is proposed that the City, County, LARPD and interested organizations and individuals coordinate efforts in seeking Federal, State, and Regional assistance for the acquisition and management of these Natural Areas.

b. Wildlife Habitat

The proposals for the preservation of wildlife habitat described below support ERME policies (Part III). The Conservation Suitability Map No. III-6 reflects these policies in that it incorporates the high value habitat areas taken from the Vegetation Map No. II-11.

All forms of vegetation within the Planning Area are considered important to wildlife; however the principal wildlife values are for protection of: (1) riparian and freshwater marsh; (2) raptors; (3) lands which mark either the northern or southern limit of a species; and (4) rare and endangered wildlife. Proposals for protection of these areas are as follows:

(1) The watercourses exhibiting the riparian community which are proposed for preservation are as follows:

(a) Altamont Creek, source to Arroyo Las Positas;

(b) Arroyo Las Positas, Livermore City Limits (near confluence with Cayetano Creek) to Livermore City limits (near Freeway 580 and Las Positas Road); source to Greenville Road;

(c) Arroyo Mocho, Livermore City limits to County line;

(d) Arroyo Seco, source to Livermore City limits;

(e) Arroyo Del Valle, County Line to Del Valle Recreation Area; Del Valle Dam to Pleasanton City limits;

(f) Collier Canyon Creek, County line to Arroyo Las Positas;

(g) Corral Hollow Creek, County line (Sulphur Spring Canyon) to County line near Tesla Road;

(h) Cottonwood Creek, County line to Arroyo Las Positas;

(i) Dry Creek, source to Arroyo Del Valle;

(j) Various unnamed creeks.

The Valley Grassland described on Page 37 provide refuge for raptors. It is proposed that agricultural preservation policies will also result in the preservation of these areas.

c. Corral Hollow:

Should be preserved as the northern limit of many desert plants and animals. It is the only desert-type habitat close to the Bay Area and is also the habitat of several rare and endangered plants and animals.

d. Rare and Endangered Animals

Table No. II-11 summarizes information on rare and endangered animals' habitat.

e. Visual Resources

To support ERME policies on visual resources (Part III), the following natural and man-made amenities are proposed to be preserved and enhanced:

Natural Amenities

Ridge Lines	Oak Woodlands & Grasslands
Grasslands	Riparian Woodland
Arroyos & Creeks	Knolls
Brushy Peak	Arroyo Mocho/Cedar Mountain
Corral Hollow	Sycamore Grove

Man-made Amenities

Vineyards	Other Agriculture
Lake Del Valle	Buildings of Historic or Architectural Interest
Scenic Highways, Roads & Corridors	Community Entrance Points

f. Archaeological Resources

ERME policies (Part III) on archaeological resources are intended to assist in protecting new discoveries and existing sites. Known sites are proposed for preservation as part of the open space system for scientific and educational purposes.

The paucity of recorded archaeological sites in the Area is not an indication of how many sites may actually exist but is a reflection of how little archaeological reconnaissance has been done in the Planning Area. Other sites may exist along creeks, arroyos, protected foothill areas, watersheds and valleys.

g. Historical Resources

The County, City and LARPD should undertake a comprehensive study of historic site preservation, restoration and interpretation. Ideally, ABAG should undertake a similar study for all nine Bay Area counties since the Region has yet to define its interest in historical resources. Minimally, such a regional study should encompass historic sites within LARPD and EBRPD. Until such a study is complete, the County, City, LARPD and EBRPD should acquire historical sites and structures only if (1) they lie within larger areas suitable for recreational use, (2) in the event of endangerment, or (3) they have multiple values besides historic importance.

Private restoration of such structures allowing for conversion to a use having greater economic utility is encouraged. Designated historical sites and structures are listed in Table IV-2, Figure IV-1. A description of these is provided in the ERME Task Report.

TABLE IV-2
HERITAGE SITES AND BUILDINGS¹

Pioneer Ranches

1. Rancho Las Positas de San Jose
 - a. Robert Livermore Home Site
 - b. Livermore Memorial Monument
2. Rancho El Valle de San Jose
 - a. Teresa Bernal Livermore Home Site
 - b. Martin Mendenhall Home

1 For appropriate locations see Figure IV-1.

3. Reimer Stoven Farm and Home
4. George Stanley Farm and Home
5. Ramke Farm and Home

Early Settlements

6. Laddsville and Horton Home
7. Greenville
8. Tesla (Town Site and Coal Mines)
9. Joseville and Rock House
10. Trevarno (Community and Fuse Works)
11. Portions of the Original Town of Livermore per 1878 Map to include but not be limited to the following:
 - a. Odd Fellows Building
 - b. Carnegie Park and Building
 - c. Flag Pole
 - d. Raboli Home
 - e. Dr. Gordon Home (Site) - Dwelling now on Tesla Rd.
 - f. Old Sanctuary, Presbyterian Church
 - g. Central (Southern) Pacific RR Depot
 - h. N. B. Holmes Home (Site) - Dwelling now on Tesla Rd.
 - i. Masonic Temple (American Trust Bank Building)
 - j. Dania Hall

Vineyards and Wineries

12. Wente Winery and Mel Home
13. Olivina Winery (Site)

14. Bellevue Winery (Site)
15. Ruby Hill Winery
16. Cresta Blanca Winery
17. Concannon Winery and Home
18. True Winery (Site)
19. August Schween Farm (Site)
20. Ravenswood (Site) - Buckley Estate

Natural Areas

21. Brushy Peak and Murrieta Caves
22. Cedar Mountain
23. Arroyo Del Valle Sycamore Grove
24. Valley Oak Grove (Alden Lane Nursery)

Cemeteries

25. Oak Knoll Cemetery (Pioneer Memorial Park)
26. Masonic Cemetery (Roselawn)
27. St. Michael's Cemetery

Schools and Churches

28. May School
29. Summit School (Altamont)
30. Livermore High School
31. St. Michael's Church and School
32. Fifth Street School

Pioneer and Period Homes

33. Fassett Home

34. Anspacher Home
35. Winegar Home
36. Callaghan Home
37. Schenone Home (Unitarian Fellowship Hall)

Miscellaneous Places

38. Del Valle Sanatorium
39. Livermore Bank Building (City Offices Annex)
Town Hall 1905 to 1936
City Hall 1936 to 1958
Police Station until 1974
Fire Station until 1976
40. Livermore Sanatorium and Wm. Mendenhall Home Site (First Baptist Church and Pentecostal Bible College)
41. Bank of Italy (City Hall 1958 to 19____)

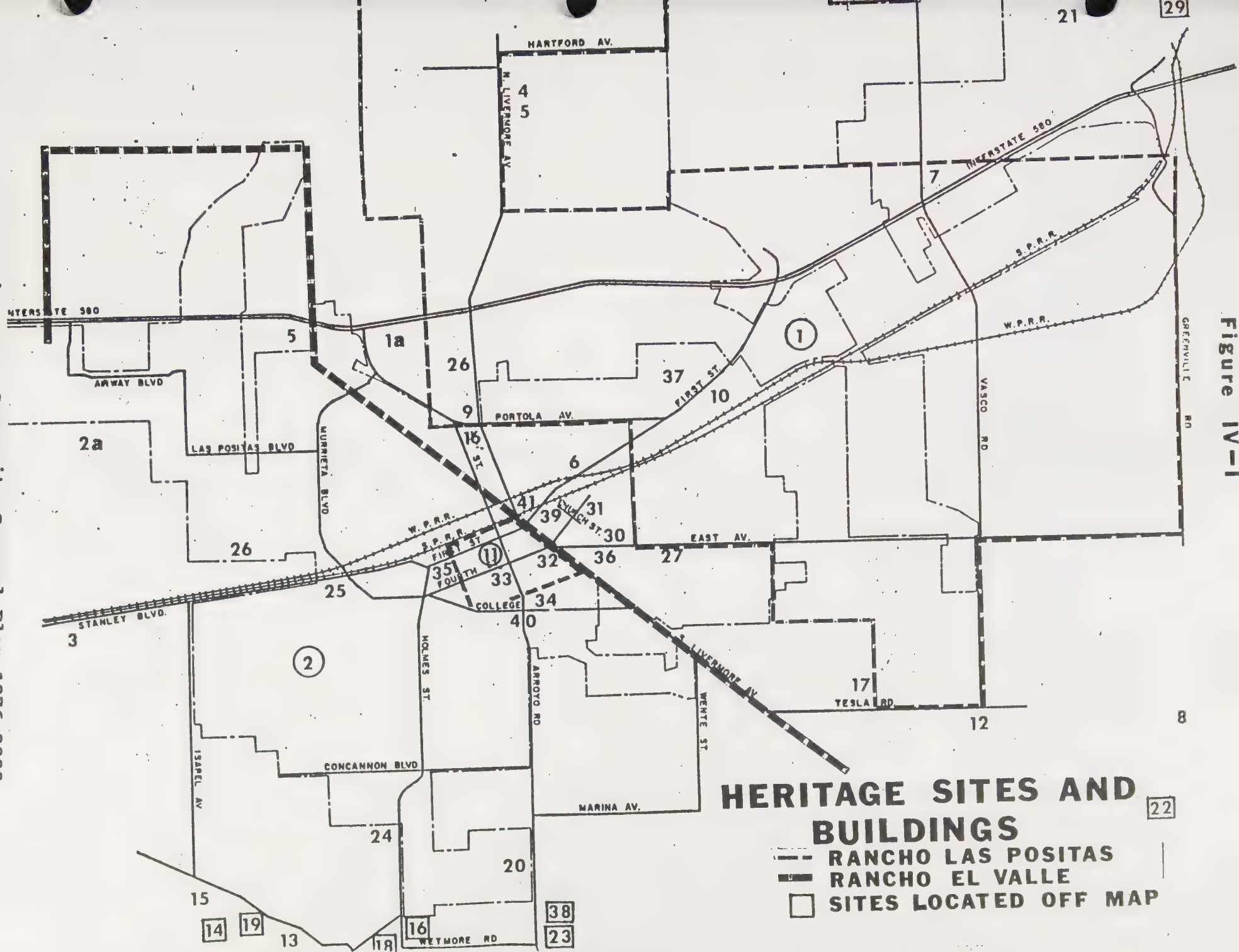


Figure IV-1

h. Arroyos and Creeks

Since arroyos and creeks are sensitive areas, development within and adjacent to the watercourse has profound effects on stream hydrology, channel geometry, water quality and stream ecology, making effective management extremely important. Therefore, it is proposed that regulation of arroyos and creeks should be directed at (1) establishing a buffer zone, (2) identification of compatible uses within the buffer zone, (3) control of topographical alterations within the buffer zone, (4) control of runoff, erosion and sedimentation in the upper watershed, and (5) maintenance of year-round flows.

The City shall acquire the arroyos and creeks by purchase or through land and open space dedications imposed during the land development regulation process.

The City, LARPD or EBRPD should purchase either by fee or less-than-fee acquisition, the Arroyo Del Valle east of Isabel Avenue to preserve the visual, recreational, vegetation and wildlife values.

i. Woodlands

Woodlands perform a number of functions and therefore should be preserved and protected. These functions include: Moderating the local microclimate (temperature, precipitation, runoff, wind and noise); buffering pollution (air and noise); protecting watersheds and soils; providing a varied and rich environment for many kinds of plants and animals; providing recreation; and providing aesthetic enjoyment.

Grazing or agriculture could seriously disturb these areas and eventually destroy them if the growth of saplings and woodland reproduction is prevented. Regulations should be developed to preserve not simply trees, but the entire woodland ecology. Woodland regulations should also be closely tied to grading, erosion and sedimentation controls.

4. Proposals for Outdoor Recreation

Five levels of government provide recreation in the Livermore Planning Area.

As part of the State Water Plan, the State Department of Water Resources acquired and built the Del Valle Reservoir which is operated as a regional park by the East Bay Regional Park District. The County of Alameda does not directly supply recreation in the Planning Area, but indirectly ensures recreation through planning and zoning open space in the County. The County also helps protect the rural scenic qualities of the area by preserving agricultural open space under the Williamson Act.

The East Bay Regional Park District provides recreation at Del Valle Reservoir and maintains Shadow Cliffs Recreation area near the western boundary of the Planning Area.

The City of Livermore, the Livermore Area Recreation and Park District (LARPD), and the Livermore Valley Unified School District (LVUSD) are the chief suppliers of recreation in the Planning Area with LARPD playing the primary role. A close relationship exists whereby LARPD, under agreement with LVUSD, conducts recreation programs on school grounds. Also by agreement, the City acquires park areas that are developed and operated by LARPD. Most of the recreation supplied under these agreements is of an urban type commonly referred to as neighborhood and community recreation. In a few areas, LARPD also provides regional types of recreation.

Del Valle Reservoir is the only major recreation site in the Planning Area where overnight, weekend and vacation recreation is emphasized. LARPD does provide a vacation area at Lake Tahoe for district residents.

Recreation proposals are arranged according to the level of government having primary responsibility for implementation. The Major proposals described are also presented graphically on the General Plan diagram. The proposals involve three broad categories of recreation: neighborhood, community and regional.

a. Proposals for Federal Action

Proposals for action by the Federal government are concerned with Corral Hollow. The National Park Service, under the authority of the Historic Sites Act (Public Law 74-292, August 27, 1935) should designate Corral Hollow as a Registered Natural Landmark. Upon such designation, a joint Federal/State government agreement for the acquisition, development, maintenance and operation of Corral Hollow as a natural area should be developed.

b. Proposals for Action By the State

Proposals for action by the State government are to expand outdoor recreation opportunities at Lake Del Valle, Cedar Mountain and Corral Hollow (CWACC designated areas), Arroyo Del Valle, and Arroyo Mocho. Such actions should be in conjunction with actions of EBRPD and LARPD.

Lake Del Valle is a popular water-oriented park and derives much of its attraction from its rural setting. Unfortunately, only a small part of the viewshed is in public ownership. Approximately 6,500 acres of private land lie within the viewshed. If this area is not protected from development either through acquisition or regulation, the remote character of Del Valle may soon be lost. The privately-owned ridge on the west side of the reservoir is contiguous with lands of the San Francisco Water Department and with the proposed Wauhab/Valpe Ridges Regional Wilderness Area. Development of these ridgelines and east-facing slopes would seriously impair the view from Del Valle and from the proposed Wilderness Area. Development also could adversely effect the quality of water in the reservoir.

A second action which the State should pursue is the designation of Corral Hollow as a Registered Natural Landmark and the development of a joint Federal/State government agreement for the acquisition, development and maintenance of this natural area. The State should also seek the designation of other natural areas as identified by the CNACC as Registered Natural Landmarks. In this regard, a joint State/Regional agreement for the acquisition, development, maintenance and operation of cedar Mountain as a natural area should be pursued.

According to the State Department of Parks and Recreation in their California Outdoor Recreation Resources Plan, Arroyo Del Valle and Arroyo Mocho are identified as having priority for protection. These two arroyos should be acquired and developed under a joint multi-level agreement as water-oriented parkways. They would also serve to tie together vineyard areas.

c. Proposals for Action By the East Bay Regional Park District

The policy and objectives of EBRPD include providing a land and water system of regional parks, recreation areas, wilderness, preserves, trails and

shoreline and acquiring and preserving significant examples of the natural environment, biological and geological resources and outdoor heritage.

In addition to the areas operated by EBRPD in the Livermore Planning Area, the district plans to acquire a new park in Doolan Canyon and develop a riding and hiking trail from Del Valle northward toward Mount Diablo.

The goals and objectives of EBRPD justly seek to have the district concentrate on providing regional recreation facilities rather than neighborhood and community recreation.

The City of Livermore endorses the above goals and policies of EBRPD.

If the State fails to acquire the previously recommended watershed and viewshed lands of Lake Del Valle, then the EBRPD should assume primary responsibility for their protection.

d. Proposed Scenic Highways and Road System

A system of scenic highways and roads shall be included in a separate scenic highways element of the General Plan. This system should connect with a larger system involving Alameda County.

Particular concern should be given to Lake Del Valle, Cedar Mountain, Corral Hollow, Brushy Peak and Doolan Canyon.

The concept of visually attractive Community Entrance Points should also be an important component of the Scenic Highways and Road System. Included are Portola Avenue, North Livermore Avenue, First Street, Holmes Street and Stanley Boulevard.

These Community Entrance Points should be designated for protective corridor treatment. As the City's chosen entryway the North Livermore interchange at I-580 shall be preserved as a scenic feature. The lands immediately adjacent to the interchange shall be maintained as landscaped open space. (Reso. No. 208-79, 7/23/89)

Improvements to state highway components of the Scenic Highways and Road System should be subject to standards and criteria of scenic conservation established by the California Department of Transportation for State Scenic Highways. To this end, the City and County should develop an agreement

with the regional office of CALTRANS which provides for the State alerting the City and County to scheduled road projects, the steps the State intends to take in its commitment to established policies of scenic conservation, and the time within which the City and County must respond with recommendations for furthering the goals, policies and proposals of their appropriate elements. Also, the City and County should accumulate and maintain a manual of official State policies governing the State's responsibility in maintaining and improving State Scenic Highways so that the City and County may better fulfill their responsibilities.

Interstate Route 580 and State Route 84 are included in the State Master Plan of Scenic Highways.

The State Planning Act requires the adoption of a Scenic Highways Element of the General Plan. This requirement in conjunction with the requirement that zoning be consistent with the General Plan suggests that the City and County take steps to seek early designation of Interstate 580 and State Route 84 as an "official State scenic highway," in accordance with the procedures prescribed in the State's publication entitled The Scenic Route: A Guide for the Official Designation of Eligible Scenic Highways.

As improvements are made to City and/or County roads in the Scenic Highways and Road System, the City and County should develop standards of roadway and right-of-way design, improvement, and maintenance which will result in the consistent application of standards of scenic conservation.

Also the City and County should identify the needs and opportunities of each component of the Scenic Highways and Road System and should develop programs to enhance the scenic experience and schedule them as part of its capital improvement, maintenance and annual budget process.

Tools required by the City and County for scenic corridors management involve development regulations, the programming of public actions and public improvements to enhance the scenic experience, and coordination of intergovernmental actions.

e. Proposals for Action by Local Agencies

(1) Trailway/Bikeway Plans

Major components of these plans include a system of riding, biking, and hiking trails and a system of bicycle routes, related to mini-parks, neighborhood parks, community parks, district parks, golf courses and other open space.

The "Livermore Trailway System" and "Bicycle Route Plan" both adopted by the City of Livermore as a part of its General Plan shall be implemented.

(2) Park and Recreation Facilities/Programs

The Master Plan of the Livermore Area Recreation and Park District contains goals and policies for the operation of Park and Recreation facilities and programs in their district. The City endorses those goals and policies in their plan.

The City shall maintain an inventory of existing recreation areas owned and/or operated by LARPD, LVUSD and the City. Existing and proposed neighborhood, community and regional parks are shown on the General Plan diagram. Major additions are the proposed community park located on the knolls north of I-580 and the neighborhood parks in conjunction with the proposed elementary schools.

f. Division of Responsibilities at the Local Level

The following is the proposed division of responsibilities between the LARPD and the City of Livermore in planning, coordinating, supplying and managing the recreation function.

(1) The City of Livermore

(a) Planning and Coordination

Since LARPD provides recreation within its district boundaries, the City should concentrate its responsibility on the coordination of private development plans with LARPD and LVUSD plans. Agreements must ensure that recreation needs are reviewed and defined, that priorities are set, and that a program for meeting these

needs is accomplished. The City should continue to work jointly with LARPD in order to assist it in obtaining Federal and State funds for planning, acquisition, and coordinating district recreation programs with the County and EBRPD plans.

(b) Land Acquisition

The City should continue to acquire land by requiring park dedication in conjunction with development and through other available means.

The City shall recognize LARPD as the developer and operator of park and recreation facilities and shall continue to help finance park development.

(2) Livermore Area Recreation and Park District

(a) Planning and Coordination

The District should be an equal partner with the City of Livermore in coordinating its activities with those of the City as described above. LARPD should introduce into its Master Plan elements for preservation of natural and historical features and seek a coordinated division of responsibility with the County, State and Federal governments.

(b) Land Acquisition

The City should continue to acquire park land and should assume responsibilities for development and management of recreation park areas.

B. LAND USE ELEMENT PROPOSALS

The total urbanized area shown on the General Plan diagram involves about 24.5 square miles. It can accommodate an urban area population of approximately 82,000 persons. The projected land use by category is summarized as follows:

<u>Uses</u>	<u>Acres</u>
Residential	7668
Commercial	592
Industrial	3038
Public and Semi-Public	<u>4360</u>
TOTAL	15,658

Approximately 32 percent of projected population growth and land use will occur north of I-580, reflecting the environmental suitability of this area to absorb growth. The remaining 68 percent of growth will occur south of I-580 on bypassed lands and on other lands suitable for urban uses. By the year 2000, 17 percent of the population and 17 percent of the dwelling units within the Planning Area will be located north of I-580.

Table IV-3 depicts the projected growth of population and dwelling units geographically within the Planning Area.

TABLE IV-3

POPULATION AND DWELLING UNIT DISTRIBUTION, 1975-2000
Livermore Planning Area

<u>Year</u>	<u>Population</u>	<u>Dwelling Units</u>	<u>No. of I-580 % Population</u>	<u>No. of I-580 % of D.U.</u>
1975	50,000	16,450	7	8
1990	58,884	20,165	13	13
2000	70,372	24,209	17	17

In order to carry out the land use goals and policies, general boundaries are shown on the General Plan diagram for the expected time-phasing of development. This phasing provides orderly development so that municipal facilities and services can be provided and that complete self-sufficient neighborhoods will develop which will provide a suitable, pleasant and economical living environment for the residents. The phased boundaries are defined below and indicated on the General Plan diagram.

Short Range - approximate population 55,000 at the maximum growth rate projected by the Plan. The boundary is the approximate 1975 City Limits.

Medium Range- approximate population 67,000, boundary includes immediately adjacent in fill areas.

Long Range - approximate population 82,000, includes all the other areas shown for urban development.

1. Residential Development

Residential densities are expressed in terms of a number of units per gross acre. The gross acre shall include land within the boundaries of the property being developed in addition to the area between the mid-line of all adjacent local (non-collector and non-major) streets and the property boundary. The gross acreage shall not include: 1) land that is to be purchased by a public agency; 2) required park land dedication; 3) non-residential uses. (CC Reso. 402-91; Dated 11/25/91)

Pursuant to policy, the City intends to prepare specific plans for each of the several Planning Units which have been delineated throughout the Planning Area. Where small vacant parcels occur in Planning Units which are largely built up, the City intends density be no higher than the average of the density shown in the Plan.

The number of residential units permitted in each project shall be calculated by utilizing the following method of rounding off. For projects where the number of units permitted on a lot has a lot is less than the next whole number, the number will be rounded down to the nearest whole number. (CC Reso. 402-91; Dated 11/25/91) (replaces CC Reso. 191-88; 7/11/88)

Six levels of residential development are shown on the Plan diagram to accommodate different densities and housing styles.

Rural Residential: Minimum lot size - one (1) dwelling unit per one (1) acre to one (1) dwelling unit per five (5) acres.

Urban Low Residential: 1.5 DU/Ac. - Average Density
2.0 DU/Ac. - Average Density

Urban Low Medium Residential: 3 DU/Ac.- Average Density

Urban Medium Residential: 4.5 DU/Ac. - Average Density

Urban Medium High Residential: 6 DU/Ac. - Avg. Density

Urban High Residential:

Category 1: 6 to 8 DU/Ac. - Average Density

Category 2: 8 to 14 DU/Ac. - Average Density

Category 3: 14 to 18 DU/Ac. - Average Density

Category 4: 18 to 22 DU/Ac. - Average Density

- a. Rural Residential areas are intended to encourage large lot development having a rural character, generally on the urban fringe. It is intended to establish an urban limit line so as to preclude encroachment of rural residential development into agricultural areas. It is intended to designate areas to reflect the existing land use of surrounding areas. These areas provide a transition between more highly developed areas and agricultural and open areas surrounding the community. In some locations, as in the case of those lands east of Arroyo Road and south of the central City, this designation recognizes existing densities which are deemed desirable to maintain.
(Reso. 93-79, 4-9-79).
- b. Urban Low Residential areas are those having amenities worthy of preservation or which have development restraints so that low density residential development is the best use of the land. Such areas may be either rural in character or may be developed with a higher density character and provide compensable open space through density transfer.
- c. Urban Medium and Urban Low Medium Residential density areas occupy the majority of land used for residential purposes shown on the Plan diagram and form the transition from lower to higher densities as one approaches the center of the community.
(Reso. 84-78, 4-3-78)
- d. Urban Medium High Residential areas will accommodate a higher density development than the first two density categories. The use of "cluster" residential development patterns is encouraged to permit the development of urban open spaces. This designation is shown in two general patterns: (1) as a separate residential category where such

densities currently exist; and (2) as a "floating" designation where the potential for such densities exists.

Future urban medium areas have been depicted on the Plan diagram in a more generalized manner compared to the other categories, using appropriate symbols. The symbols indicate that the exact area and location for this use has not been precisely determined but that an urban medium density development is desirable in the general area.

Where the Urban Medium High symbol appears at or near an intersection, it is to be interpreted as applying to one or more of the four quadrants. The

"floating" urban medium designation is intended to reduce gross land speculation on multi-family property and to prevent windfall profits on land shown as multi-family on the Plan diagram. The "floating" designation also has been applied to areas where density transfer is especially desirable in order to preserve environmentally sensitive areas. (Reso. 84-78, 4-3-78).

- e. Urban High Residential: Category No. 1 (6 to 8 DU/Ac.) and Category No. 2 (8 to 14 DU/Ac.) are basically proposed to be allowed in the outlying areas within the City. Categories No. 3 and No. 4 should be located in areas near major roads, with adequate infrastructure, public services and amenities to support higher densities. Categories No. 3 and No. 4 are intended to provide housing opportunities for all income groups in the community, including affordable housing.

One of the basic land use policies, endorsed in the early phases of this program, is that new development should be located so as to create a more consolidated pattern of urbanization, particularly to maximize the use of existing public services and facilities. As the dominant user of urban land, residential development will have an important influence on realization of this policy. City-County cooperation is also important to achieve the desired growth and especially to achieve sound residential growth patterns.

- f. Residential Density Bonuses

Residential policies include provisions for density bonuses as mandated by State law (a 25% bonus for providing 20% low income units, or 10% very low income units - Section 65915 of Planning, Zoning, and Development Laws). In addition, discretionary

incentives are provided below for the production of Senior Citizen Housing and Very-Low Income Housing. A development meeting the criteria may receive either a bonus under State law or the bonuses noted below but not both. If a development meets the criteria for both the Senior bonus and the Very Low Income bonus noted below, it is eligible to use both bonuses. Each bonus will be calculated separately based upon the maximum number of units permitted by the General Plan and zoning designations on the site.

(1) Senior Citizen Housing Incentive Program

The residential policies include a Senior Citizen Housing Incentive Program which provides up to 45 percent density increases for senior citizen housing meeting the following criteria:

- (i) The project will serve senior citizen rental housing needs.
- (ii) The dwelling units will not exceed 700 square feet each, plus common facilities.
- (iii) The project will be located in an area with adequate public facilities and uses, or the project will otherwise supply these needs.

(2) Very-Low Income Housing Incentive Program

Residential policies include a Very-Low Income Housing Incentive Program which provides a density bonus of up to 50 percent for a project that includes at least 25 percent very-low income units. Consistent with the State density bonus law, the density bonus units shall not be included when calculating the required number of very low income units. The granting of any density bonus (excepting State density bonus law) is discretionary, and a smaller bonus than those listed above may be granted. Land use goals and policies of the General Plan will apply to very-low income/mixed housing projects, including design review, guidelines established in the Livermore Urban Design Implementation Program, and processing

under PD and PUD zoning and development criteria.

The size of a density bonus will generally be guided by the above ratios and the ability of a project to fulfill several of the following criteria:

- (i) Location: Projects should be located near shopping centers, schools, parks and transit routes. Locations that increase the housing diversity of a neighborhood are encouraged.
- (ii) Conformance to Design Standards: Through the use of a Planned Unit Development Permit, the City Council may modify development criteria to accommodate a very-low income project, however, the project must be designed to provide adequate parking, open space, light, air, privacy, and amenities for the residents of the complex.
- (iii) Development Siting: The project should protect any natural features of the site, and avoid high risk areas. The project should be compatible with the surrounding neighborhood/environment and should include appropriate setbacks, and restrictions on height and bulk to protect the neighborhood.

g. Calculation of Residential Density

Residential densities are expressed in terms of a number of units per gross acre. The gross acre shall include land within the boundaries of the property being developed in addition to the area between the mid-line of all adjacent local (non-collector and non-major) streets and the property boundary. The gross acreage shall not include:

- 1) land that is to be purchased by a public agency,
- 2) required park land dedication, nor
- 3) non-residential uses.

The number of residential units permitted in each project shall be calculated by utilizing the following method of rounding off. For projects

where the number of units permitted on a lot is less than the next whole number, the number will be rounded down to the nearest whole number.

h. Density Transfer Policy

The following elements are necessary components of a "density transfer" policy.

- (1) That the density transfer must be based upon a "general public benefit" such as moving density from a hillside location (which might be more environmentally sensitive) to a valley location with less environmental consequences.
- (2) The density transfer must involve a residential "receiving site". Density transfer to open space, commercial or institutional locations would be inappropriate.
- (3) The final density of the receiving site must fall within the designated range of density specified for the site. For sites with an established density range (i.e. 9-14 du/ac), the receiving site density should not exceed the range. Where no range is specified (i.e. 3 du/ac) the final density should not exceed the limits of the next density range. In the 3 du/ac case, not to exceed 4.5 du/ac.
- (4) Any density transfer must look at the total "public facility" capacity serving the receiving site. That is, there needs to be sufficient infrastructure (roads, water, sewer, storm drainage, etc.) and public services (police, fire, schools, etc.).
- (5) In order to provide for a definitive analysis, the receiving site and its development plan should be reviewed under the terms of a Planned Unit Development permit. The permit provides an appropriate forum for evaluating both the objective and subjective criteria suggested here. (Reso. 249-90)

2. Commercial Development

Six basic commercial use designations are shown on the Plan: Central Commercial, Service Commercial, Highway

Commercial, Neighborhood Commercial, Community Serving General Commercial, and Office Commercial. (Reso. No. 53-88).

- a. Central Commercial applies only to the Central Business District. This designation includes those uses typically found in a community shopping center, such as general merchandise, variety, specialty and department stores as well as convenience goods and personal service establishments. It also designates the office and financial center of the community. As new higher density residential growth takes place in and around the area and as the railroad relocation property develops, its present dominant position will be further strengthened. The City has prepared a Central Business District Plan called the Urban Design Plan to assist and encourage development of the existing CBD as the Central Commercial Area. (Reso. No. 53-88)
- b. Service Commercial areas reflect present land use and a recognition of the continuing need for land in this category. The service commercial areas are appropriate at locations outside of the CBD along major streets, in the general vicinity of freeway interchanges, or at other locations with significant access potential from the community at large. These uses which support other activities in the CBD include auto sales and service, nurseries, home maintenance centers and wholesale establishments. (Reso. No. 53-88)
- c. Highway Commercial supports land use policies on highway serving commercial development near Interstate 580 interchanges. The Plan diagram is to be interpreted to mean that future expansion of highway commercial development shall be limited to the freeway interchange locations. In order that these areas may reach their maximum sales potential, uses should include hotels and motels, restaurants, and motor vehicle and gasoline service stations. To be attractive to passing traffic at gateways to the community, specific development plans should be prepared for them. (Reso No. 53-88)
- d. Neighborhood Commercial centers have been designated throughout the Plan diagram to service neighborhood convenience shopping needs. To support the commercial development policy, the designation of these centers is only an indication of ultimate need for a neighborhood center. Exact location

will be determined by specific planning, market analysis, and other factors. (Reso. No. 53-88)

Neighborhood service areas contain those retail and personal service activities which meet convenience goods needs of the people relatively close to their homes. Examples of convenience goods and services are food, liquor, drug stores, barber and beauty shops, service stations, laundromats and cleaning establishments. Also appropriate would be professional and commercial offices that are residential rather than business-oriented and public uses such as meeting places and day care centers.

Before new development is allowed in each of these new centers, a specific plan for circulation and land use should be developed in the interest of safety, convenience, and maximum benefit for tenant and shopper alike. The City can do this in cooperation with the property owners and tenants of each area. In this way, rather than allowing haphazard growth, a basic framework for circulation, land use, building, signing and landscaping can be established that will permit orderly growth as the service area of each center expands.

- e. Community Serving General Commercial (CSGC) provides additional commercial areas appropriate for locations outside of the CBD with significant access potential from the community at-large which provides a high quality commercial atmosphere.

- (1) The intent of the Community Serving General Commercial is to identify those locations along major streets, and in the general vicinity of freeway interchanges where any one or combination of significant community serving retail, office, service and mixed residential activity may be appropriate at a future date. Locations identified for CSGC represent areas where a broad range of potential commercial uses are appropriate with the precise commercial mix/uses identified at the time of zoning or specific project review. In general, the CSGC is intended to promote the location of:

- (a) Commercial uses generally consisting of a size, bulk and coverage found in a retail shopping center environment, including:

- (1) Destination oriented prime retail tenants and accessory retail uses,
 - (2) Business, and commercial services,
 - (3) Professional and administrative offices, and
 - (b) Necessary supporting residential uses in keeping with Residential Density Proposals B.1.e. at a density not to exceed fourteen (14) dwelling units per acre. Residential uses will generally be limited to no more than 20% of the site area, or 20% of the contiguous properties in the same designation where a coordinate development is proposed. (Reso. No. 53-88)
- (2) The CSGC is generally intended to be implemented through the Planned Unit Development (PUD) permit process utilizing market research, site design, and access to assure community impacts have been identified and fully ameliorated. Where specific uses are known, specific zoning may be applicable. The PUD permit would:
- (a) Identify the core tenant(s),
 - (b) Identify the core tenant's relationship to ancillary retail, office, service and residential uses,
 - (c) Identify the effect of the development upon surrounding commercial activity, in particular the consequences of implementing this project upon the CBD,
 - (d) Achieve outstanding architectural design which takes into consideration the site location, its visibility, its physical site characteristics, and its relationship to the surrounding community,

- (e) Be integrated into the community-wide circulation system through proper access and public street improvements necessary to successfully serve the type and intensity of development proposed, and
 - (f) Identify the phasing/timing of this project, and its relationship to other segments of the commercial, residential or industrial marketplace. (Reso. No. 53-88)
- f. Office Commercial areas have been designated at various locations on the Plan diagram in order to serve the community as a whole, while having the minimum adverse impacts upon the immediate neighborhood and its predominantly residential character. These office areas are intended to provide sites for offices for doctor, attorney, insurance, and other similar uses. In order to ensure maximum compatibility with land use development patterns, these areas preclude retail and commercial service type uses. (Reso. No. 53-88)
- g. Business and Commercial Park (BCP): The intent of the designation is to identify those locations along major streets, and in the general vicinity of freeway interchanges where a mix of limited service and highway commercial, community/regional commercial retail, office and light industrial activities may be appropriate. The BCP designation encourages the development of employment generating activities adjacent to destination-oriented and limited retail commercial uses.

(1) The BCP designation may be placed on areas of a minimum of 20 acres where it can be shown to promote the location of:

- (a) Community/regional commercial uses that, due to their size and land requirements, have specialized locational criteria, including:
 - (1) Large, destination-oriented retail commercial uses (e.g. factory outlet centers, warehouse wholesale/retail stores) Maximum Building Coverage - .30
 - (2) Large commercial service uses (e.g. home improvement centers, furnishings and appliance stores, automobile and recreational vehicles sales) Maximum Building coverage - .30

(b) Professional and administrative offices.
Maximum building coverage - .40

(c) Highway-oriented commercial uses where appropriate (e.g. hotel/motel, convention center). Maximum Building Coverage - .40

(d) Support and ancillary services (e.g. restaurants, service stations)

(e) Low Intensity Industrial uses compatible with the above uses. Maximum Building Coverage - .45

(2) The BCP designation shall be implemented through the Planned Development Zoning District and the Planned Unit Development (PUD) permit process. The PUD Permit would:

(a) Identify the appropriate range of land uses consistent with the intent of the designation to ensure compatibility within the development and with adjacent land uses.

(b) Provide for well designed, architecturally integrated development consistent with the intent of the Livermore Urban Design Implementation Program. Development of the area shall also consider and integrate any unique environmental features with the urban elements of the site.

(c) Integrate the development into the community-wide circulation system through proper access and public street improvements necessary to serve the type and intensity of development proposed.

(d) The PUD Permit shall address the general configuration, location and intensity of land uses. (CC Reso 185-91)

3. Industrial Development

To support land use policies on industrial development, industrial areas are designated in the Plan. Major area for high intensity industrial uses lie between Patterson Pass Road and I-580 generally between future Mines Road and Greenville Road. The primary area for low intensity industrial expansion surrounds the Municipal Airport. Low intensity industrial uses, as defined in the zoning ordinance, are also proposed within the area east of the airport runway to the extent that they do not violate

the "clear zone" restrictions or impact existing residential areas.

Because many of the areas are closely related to the airport and freeway interchange approaches to the City, quality site planning and design standards should be carefully applied.

The City shall encourage the formation of an Industrial Park Foundation for purposes of establishing an industrial park as an added inducement in attracting new industries.

4. Agriculture

Agricultural land proposals of the Plan are intended to define the limits of urbanization for the planning period and also to respect the integrity of agricultural lands surrounding the community. Preventing premature extension of urbanization into agricultural lands and excluding uses from agricultural areas which are incompatible with agricultural operations are important policies that are reflected in the land use plan.

5. Agriculture/Viticulture. Areas have been designated to preserve and promote agriculture and viticulture uses in locations suitable for cultivated agriculture, and to protect sensitive or unique environmental and land characteristics, including an area's rural character. The agriculture/viticulture density is one residential dwelling unit per 100 acres (100-acre site minimum), subject to a density bonus of up to four additional homesites per 100 acres 1:20-du/ac site minimum), if the following criteria are met:

- a. the parcel is zoned PD/Agriculture;
- b. adequate water supplies are available for both domestic and irrigation needs, and all proposed uses can be served by individual septic systems;
- c. sensitive or unique environmental and land characteristics are protected;
- d. prior to final subdivision map approval (or through further surety that such planting will be completed within 39 months of filing the final map, unless an extension is granted), a minimum of 90% of the parcel is planted in wine grapes or other cultivated agriculture, with provisions that will ensure its continued cultivated agricultural use through a long-term (minimum of 8 years) agreement for operation and maintenance;

- e. agricultural homesites, ancillary uses and parcel configurations are sited to maximize productive use of land for intensive cultivated agriculture. (CC Reso. #92-284)

C. TRANSPORTATION-CIRCULATION ELEMENT

REFER TO THE CIRCULATION ELEMENT (Reso. #135-89, 2-27-89)

D. MAJOR PUBLIC FACILITIES

1. Municipal Sewer System

In order to accommodate projected future urban development, the Water Reclamation Plant must be expanded.

It is proposed that future plant expansion will be in several stages. A short-range expansion would increase capacity from the present five million gallons per day (mgd) average dry weather flow to 6.0 mgd. Given the limited amount of the remaining uncommitted capacity, this expansion will be critical to achieving the short-range goals and policies of the General Plan relative to economic development and low income housing thereby helping to mitigate the air quality problem.

Ultimate expansion to 10 mgd is proposed to be more than adequate to serve the urban area shown on the Plan diagram.

2. Water Service

Figure IV-3 shows the water facilities of Zone 7 and the existing water trunk lines of the City of Livermore and the California Water services Company. Also shown are the proposed major facilities necessary to serve the urban pattern shown on the General Plan diagram.

3. Fire Protection Facilities

In addition to the three existing fire stations operated by the City Fire Department, a fourth station will be built near Holmes Street and Concannon Boulevard affording the department excellent response to the existing developed areas of the City.

On a longer range basis, a fifth station will be required in the northwest urban area to provide additional protection for the airport, adjacent industrialization, the Junior College and other future urbanization. Although some adjustment may be required in the location of one of the existing stations, the five stations, each with a service radius of 1 1/2 miles should be adequate for the urban pattern shown on the Plan diagram.

Future stations should be located on sites of at least one half acre in size. This allows adequate on-site parking and turn-around and storage space for equipment. A somewhat larger site is desirable if a central office, training center, maintenance yard or fire prevention bureau is to be included as a part of the center.

4. Community Park - Civic Center

The community Park-Civic Center Site should provide the following facilities:

Administration Bldg.:	Offices, Police, Court Room, Council Chambers
Library	Restaurant
Auditorium	Recreation Center
Little Theater	Community Center
Museum	Teen Center
Work Shop	Park

To support the Civic Center, development of the Sunken Gardens Site by LARPD is encouraged. Clustered multi-family development in surrounding areas is proposed as a complimentary feature to the Civic Center.

A site within the Civic Center should be considered for the Community Service Center discussed under Public Facilities in Part II. Not only is the location easily accessible, especially if public transportation is initiated, but the facility, for which funding comes from Federal sources, could also be used as a recreation of Teen/Senior Citizens Center. This type of multi-use would better meet the intent of the Civic Center Plan.

5. School Proposals

The Plan diagram shows all existing school sites, plus three additional elementary school sites, and one additional junior high site.

Two additional elementary schools are shown north of I-580 to support the significant residential growth projected. One site is proposed in the area north of Portola and First Street. Each site is adjacent to a neighborhood park and located centrally within the area it will serve.

In recognition of growth in Springtown and other areas north of I-580, a junior high site is proposed to be more accessible from those neighborhoods.

FIGURE IV-2

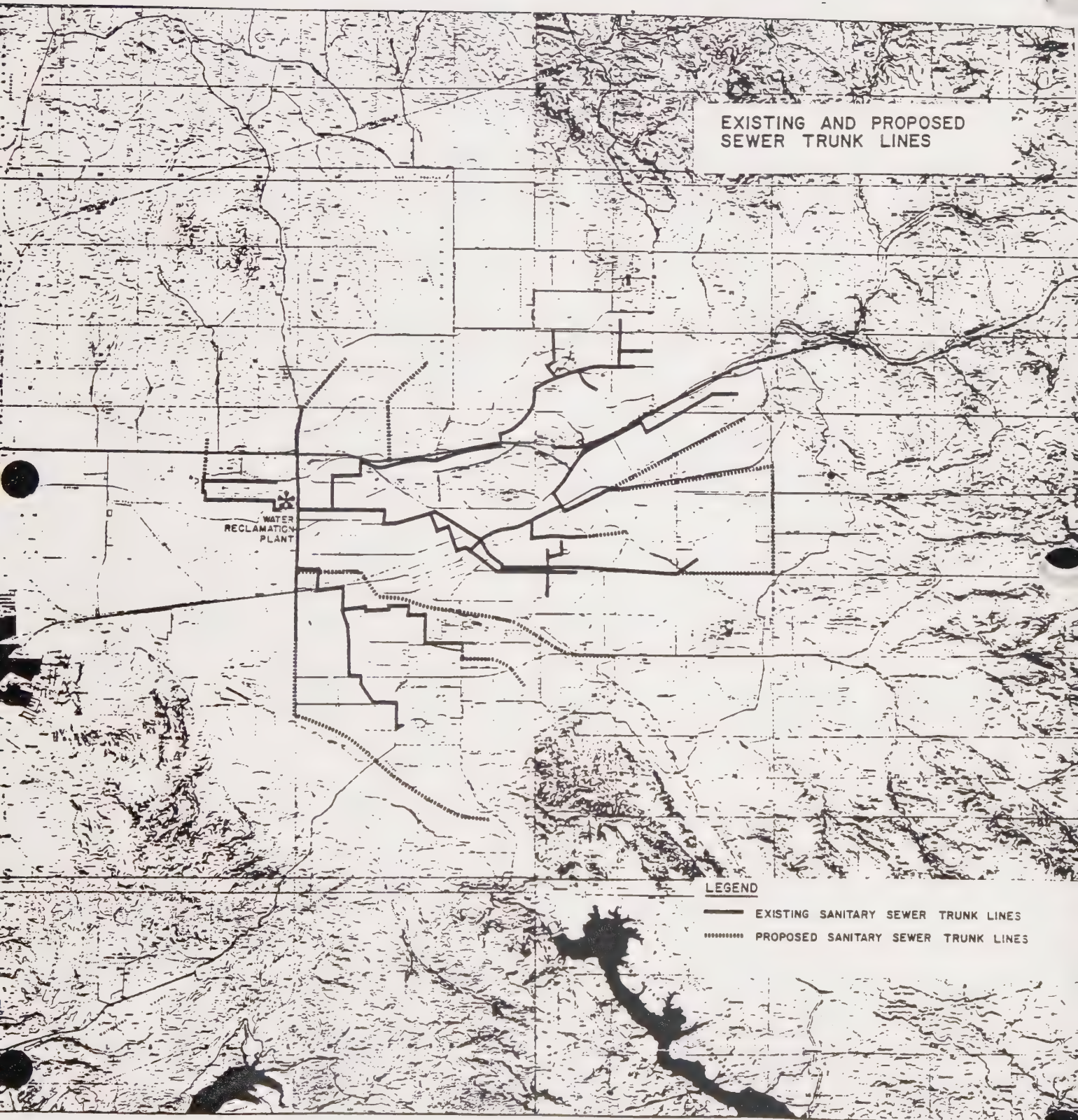
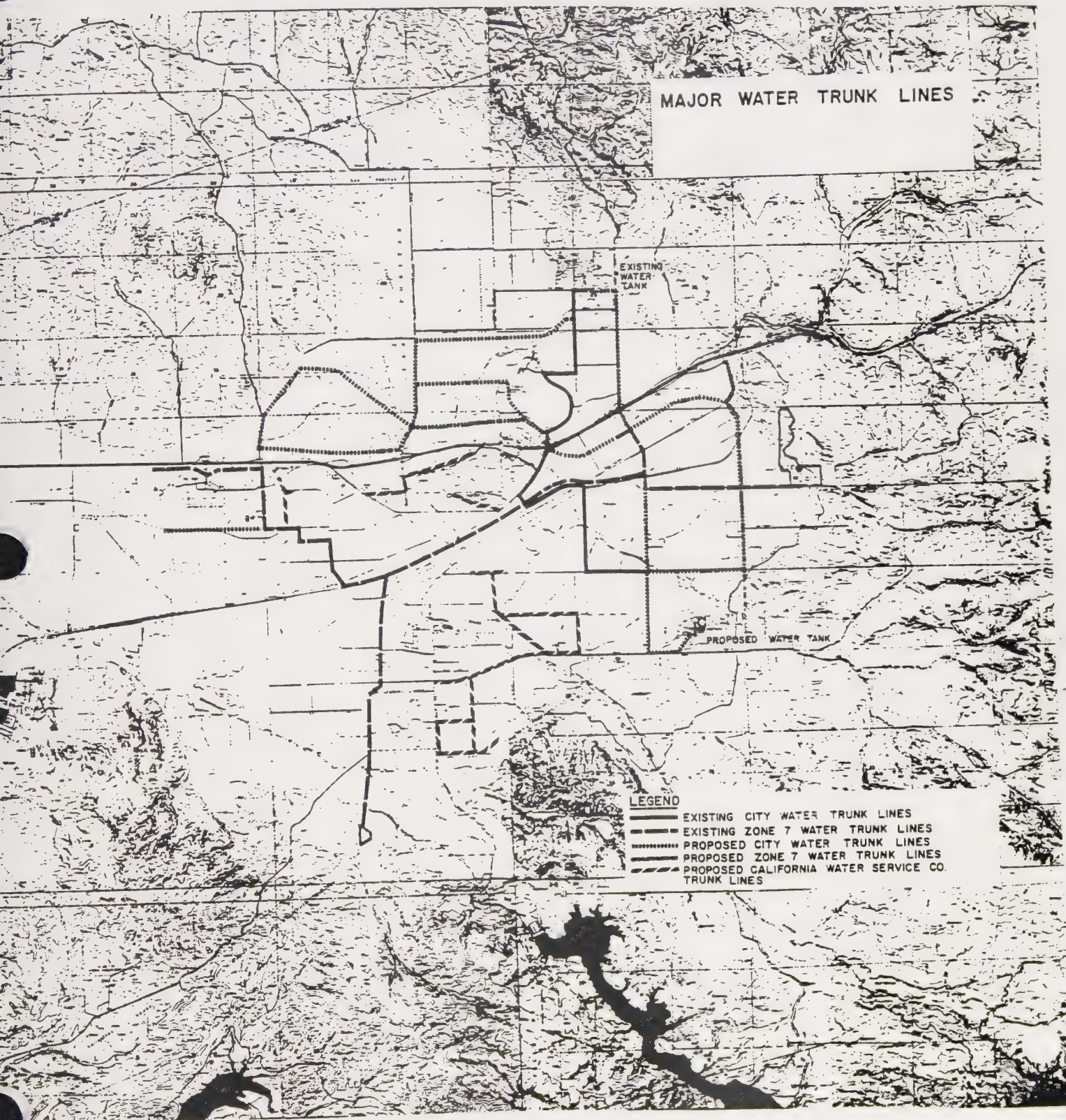


FIGURE IV - 3



- E. SCENIC ROUTE ELEMENT (See Supplemental Document)
 - F. NOISE ELEMENT (See Supplemental Document)
 - G. CENTRAL AREA ELEMENT (See Supplemental Document)
 - H. ENERGY ELEMENT (See Supplemental Document)
 - I. PUBLIC FACILITIES AND SERVICES ELEMENT re PARK AND RECREATION FACILITIES (See Supplemental Document)
 - J. BICYCLE ROUTE/TRAILWAY SYSTEM PLAN (See Supplemental Document)
 - K. HOUSING ELEMENT (See Supplemental Document)
- NORTHSIDE AREA "A" (Attachment)

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